2016-2345

VOLUME I OF II

(Pages 1-538)

In The

United States Court of Appeals

For The Federal Circuit

IN RE: MAGNESITA REFRACTORIES COMPANY,

Appellant.

APPEAL FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE, PATENT TRIAL AND APPEAL BOARD IN NOS. 77/873,477, 85/834,316.

JOINT APPENDIX

Thomas J. Moore
Thomas Lee
BACON & THOMAS, PLLC
625 Slaters Lane, Fourth Floor
Alexandria, Virginia 22314
(703) 683-0500 (Telephone)
(703) 683-1080 (Facsimile)
mail@baconthomas.com

Counsel for Appellant

Nathan K. Kelley
Thomas L. Casagrande
Christina Hieber
Marynelle W. Wilson
UNITED STATES PATENT AND TRADEMARK OFFICE
Office of the Solicitor
Post Office Box 1450
Mail Stop 8
Alexandria, Virginia 22313
(571) 272-9035
nathan.kelley@uspto.gov
thomas.casagrande@uspto.gov
christina.hieber@uspto.gov
marynelle.wilson@uspto.gov

Counsel for Appellee

THE LEX GROUP[DC] ♦ 1825 K Street, N.W. ♦ Suite 103 ♦ Washington, D.C. 20006
(202) 955-0001 ♦ (800) 856-4419 ♦ Fax: (202) 955-0022 ♦ www.thelexgroup.com

TABLE OF CONTENTS
VOLUME I OF II

Appendix Page

TABLE OF CONTENTS
VOLUME II OF II

Appendix Page

This Opinion is not a
Precedent of the TTAB

Hearing: March 15, 2016 Mailed: May 17, 2016

UNITED STATES PATENT AND TRADEMARK OFFICE

Trademark Trial and Appeal Board

In re Magnesita Refractories Company

Serial Nos. 77873477, 85834316[1]

Thomas J. Moore of Bacon & Thomas PLLC,
for Magnesita Refractories Company.

Dawn Feldman Lehker, Trademark Examining Attorney, Law Office 111,
Robert L. Lorenzo, Managing Attorney.

Before Quinn, Kuhlke and Lykos,
Administrative Trademark Judges.

Opinion by Kuhlke, Administrative Trademark Judge:

Magnesita Refractories Company ("Applicant") seeks registration of the word MAGNESITA as a standard character mark.

<u>Application Serial No. 77873477</u>

In Application Serial No. 77873477, Applicant seeks to register the applied-for matter for:

[1] In view of the common issues present in these appeals, the appeals were consolidated for the hearing and the Board is deciding them in this single decision. Citations to the record and briefs are to Application Serial No. 77873477 unless otherwise noted.

> Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes, in International Class 19; and
>
> Providing information via a global computer network on constructing, maintaining, and repairing refractory apparatus using refractory products, in International Class 37.

The Application was filed on November 19, 2009 under Section 1(b) of the Trademark Act based on a *bona fide* intention to use the applied-for matter in commerce. The Application includes the following translation statement: The English translation of "MAGNESITA" is "magnesia" or "magnesite."

The Examining Attorney refused registration under Section 2(e)(1) of the Trademark Act, 15 U.S.C. §1052(e)(1), on the ground that the applied-for matter is merely descriptive of Applicant's goods and services. After the Examining Attorney issued a final refusal, on June 13, 2011, Applicant filed an Amendment to Allege Use and a Request for Reconsideration. In addition, on September 30, 2013, Applicant amended its application to seek registration under Section 2(f), 15 U.S.C. § 1052(f), based on acquired distinctiveness. The Examining Attorney continued to refuse registration based on mere descriptiveness under Section 2(e)(1), indicating the showing under Section 2(f) was insufficient. On March 29, 2014, Applicant filed a Request for Reconsideration and an amendment to the Supplemental Register. The Examining Attorney accepted the amendment to the Supplemental Register for the services in International Class 37, but refused registration on the Supplemental Register for the goods in International Class 19 under Section 23(c), 15 U.S.C. §

1091(c), of the Trademark Act on the ground that MAGNESITA is generic for those goods.

Thus, the only issue remaining for determination by the Board in Application Serial No. 77873477 is whether MAGNESITA is generic for the goods listed in Class 19 and therefore unregistrable on the Supplemental Register.[2]

Application Serial No. 85834316

In Application Serial No. 85834316, Applicant seeks to register the applied-for matter for:

> refractory products not primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes; and pre-cast refractory shapes, in International Class 19; and
>
> providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus using refractory products; and providing information via a global computer network on the use of mechanical equipment and computer models to construct, maintain and repair refractory installations, in International Class 37.

This application was filed on January 28, 2013, under Section 1(a) of the Trademark Act based on an allegation of first use and use in commerce on October 1, 2010. During prosecution of the application Applicant amended its date of first use to October, 2008. The Application includes the following translation statement: The

---

[2] Regardless of the outcome of this decision, Applicant's services in Application Serial No. 77873477 in International Class 37 will go forward for registration on the Supplemental Register.

English translation of "MAGNESITA" in the mark is "MAGNESITE" or "MAGNESIA."

The Trademark Examining Attorney initially refused registration of Applicant's applied-for matter under Section 2(e)(1) of the Trademark Act, 15 U.S.C. § 1052(e)(1), on the ground that Applicant's applied-for matter is merely descriptive for the goods and services. In response to the refusal Applicant asserted acquired distinctiveness under Section 2(f). The Examining Attorney continued the refusal of mere descriptiveness, asserting that the applied-for matter is highly descriptive and the Section 2(f) showing was insufficient. In the November 10, 2014 Office action, the Examining Attorney refused registration as to the goods in Class 19 on the ground that the applied-for matter is generic or highly descriptive for such goods and as to the services in Class 37 that the applied-for matter is highly descriptive and the showing under Section 2(f) is insufficient to establish acquired distinctiveness.

Thus, the remaining issues for the Board to determine in Application Serial No. 85834316 are (1) whether MAGNESITA is generic for the goods in Class 19 or in the alternative merely descriptive and the 2(f) showing is insufficient, and (2) whether MAGNESITA is merely descriptive for the services in Class 37 and the 2(f) showing is insufficient.

When the refusals in both applications were made final, Applicant appealed and requested reconsideration. After the Examining Attorney denied the requests for reconsideration, the appeals were resumed and briefs were filed. We affirm the refusals to register.

Standard of review

As a preliminary matter, Applicant argues that the Board's "standard of review should be reconsidered in view of the Supreme Court's decision the case *B&B Hardware, Inc. v. Hargis Industries, Inc.*, [135 S. Ct. 1293, 113 USPQ2d 204 (2015)]," and that the burden of persuasion should be on the Examining Attorney. 9 TTABVUE 14 (App. Serial No. 85834316). We first point out that this is an *ex parte* appeal not *inter partes* litigation, which was the subject matter of the Court's decision in *B&B Hardware v. Hargis*. *See In re Cordua Restaurants, Inc.*, ___ F.3d ___, ___ USPQ2d ___ n.2 (Fed. Cir. May 13, 2016) ("The [Supreme] Court held that issue preclusion did apply to a TTAB decision in an *inter partes* opposition proceeding, noting that the procedures there resembled the procedures of a district court. … But there is no suggestion in *B&B Hardware* that an examiner's decision to register a mark or to refuse registration satisfies the traditional requirements of issue preclusion.").

In any event, the burden always has and continues to fall on the USPTO. It is the burden of the USPTO to establish a *prima facie* case for its refusals, which may be rebutted by an applicant. In the case of establishing genericness, the United States Patent and Trademark Office (USPTO) has the burden of establishing by clear evidence that a mark is generic and, thus, unregistrable. *In re Hotels.com*, 573 F.3d 1300, 91 USPQ2d 1532, 1533 (Fed. Cir. 2009). In the case of establishing acquired distinctiveness, the burden again falls on the USPTO to establish that the applied-for matter is merely descriptive, unless conceded by an applicant by not preserving its arguments based on inherent distinctiveness when amending to assert acquired

distinctiveness. *In re Pacer Technology*, 338 F.3d 1348, 67 USPQ2d 1629, 1630 (Fed. Cir. 2007) ("It is well established that the PTO has the burden to establish a *prima facie* case of no inherent distinctiveness."). Further, "[o]nce the PTO sets forth a sufficient *prima facie* case, the burden shifts to the applicant to come forward with evidence to rebut the *prima facie* case." *Id.* at 1631. If an applicant rebuts a mere descriptiveness refusal by seeking registration based on acquired distinctiveness, it is applicant's burden to establish a *prima facie* case of acquired distinctiveness. *See Yamaha International Corp. v. Hoshino Gakki Co. Ltd.*, 840 F.2d 1572, 6 USPQ2d 1001 (Fed. Cir. 1988). Applicant does not point to any language in the *B & B Hardware* decision or elsewhere that shifts the burden of persuasion on the issue of acquired distinctiveness in an *ex parte* appeal from Applicant to the Examining Attorney. We observe that because acquired distinctiveness serves as a rebuttal to a mere descriptiveness refusal, the burden appropriately resides with Applicant. As a result, we find that it remains Applicant's burden of demonstrating that a proposed mark has acquired distinctiveness under Section 2(f).[3] *Yamaha*, 6 USPQ2d at 1001.

Is MAGNESITA generic for the applied-for goods?

A generic term "is the common descriptive name of a class of goods or services." *Princeton Vanguard, LLC v. Frito-Lay N. Am., Inc.*, 786 F.3d 960, 114 USPQ2d 1827, 1830 (Fed. Cir. 2015) (quoting *H. Marvin Ginn Corp. v. Int'l Ass'n of Fire Chiefs, Inc.*,

[3] We further observe that acquired distinctiveness of a designation under Section 2(f) is not a "static target," and an adverse decision by the Board on the issue of acquired distinctiveness does not preclude an applicant from the opportunity to later show that its proposed mark has acquired distinctiveness under Section 2(f) at a future date on a different record.

782 F.2d 987, 228 USPQ 528, 530 (Fed. Cir. 1986)). Because generic terms "are by definition incapable of indicating a particular source of the goods or services," they cannot be registered as trademarks. *Id.* (quoting *In re Dial-A-Mattress Operating Corp.*, 240 F.3d 1341, 57 USPQ2d 1807, 1810 (Fed. Cir. 2001)). "The critical issue in genericness cases is whether members of the relevant public primarily use or understand the term sought to be protected to refer to the genus of goods or services in question." *Id.* (quoting *Marvin Ginn*, 228 USPQ at 530). Making this determination "involves a two-step inquiry: First, what is the genus of goods or services at issue? Second, is the term sought to be registered … understood by the relevant public primarily to refer to that genus of goods or services?" *Marvin Ginn*, 228 USPQ at 530. *See also Princeton Vanguard*, 114 USPQ2d at 1829 ("there is only one legal standard for genericness: the two-part test set forth in *Marvin Ginn*"). "An inquiry into the public's understanding of a mark requires consideration of the mark as a whole." *Id.* at 1831 (quoting *In re Steelbuilding.com*, 415 F.3d 1293, 75 USPQ2d 1420, 1421 (Fed. Cir. 2005)). Competent sources to show the relevant purchasing public's understanding of a contested term include purchaser testimony, consumer surveys, dictionary definitions, trade journals, newspapers and other publications. *Id.* at 1830; *In re Bed & Breakfast Registry*, 791 F.2d 157, 229 USPQ 818, 819 (Fed. Cir. 1986).

In an *ex parte* appeal, as noted above the USPTO must establish by clear evidence that a mark is generic and, thus, unregistrable. *In re Hotels.com*, 91 USPQ2d at 1533; *In re Gould Paper Corp.*, 834 F.2d 1017, 5 USPQ2d 1110, 1111 (Fed. Cir. 1987); *In re Merrill Lynch, Pierce, Fenner and Smith, Inc.*, 828 F.2d 1567, 4 USPQ2d 1141 (Fed.

Cir. 1987). "Doubt on the issue of genericness is resolved in favor of the applicant." *In re DNI Holdings Ltd.*, 77 USPQ2d 1432, 1437 (TTAB 2005).

We begin by finding that the genus at issue in this case is adequately defined by Applicant's identification of goods, "Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes"; "and pre-cast refractory shapes" ("refractory products"). *See Magic Wand Inc. v. RDB Inc.*, 940 F.2d 638, 19 USPQ2d 1551, 1552 (Fed. Cir. 1991) ("[A] proper genericness inquiry focuses on the description of [goods or] services set forth in the [application or] certificate of registration"). We further find that the "relevant public" consists of the public at large, namely, ordinary consumers who purchase such refractory products, which, as the record shows, ranges from retail purchasers of household products to industrial purchasers for commercial operations. We note that the record evidence reveals that Applicant's customers are industrial operators, although the identification of goods is not so limited.

We turn then to determine whether MAGNESITA is understood by the relevant purchasing public as primarily referring to refractory products. In starting our analysis, we note that the foreign equivalent of a generic English term is no more registrable than the English term itself. "Under the doctrine of foreign equivalents, foreign words from common languages are translated into English to determine genericness, descriptiveness, as well as similarity of connotation in order to ascertain confusing similarity with English word marks." *Palm Bay Imps. Inc. v. Veuve Clicquot*

Ponsardin Maison Fondee En 1772, 396 F.3d 1369, 73 USPQ2d 1689, 1696 (Fed. Cir. 2005) (citations omitted); *In re Sambado & Son Inc.*, 45 USPQ2d 1312, 1315 (TTAB 1997) (FRUTTA FRESCA is equivalent to "fresh fruit" and thus generic and unregistrable for goods including "fresh fruits"). *See also Cordua Rests., Inc.*, ___ USPQ2d ___. The doctrine is not an absolute rule, however, and is subject to several limitations. It does not apply to words from dead or obscure languages, *In re Spirits Int'l N.V.*, 563 F.3d 1347, 90 USPQ2d 1489, 1491 (Fed. Cir. 2009) (citing 2 J. Thomas McCarthy, MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 11:34 (4th ed. 2009)), and caution is indicated when the foreign term and the English to which it is compared are not exact synonyms, *In re Sarkli, Ltd.*, 721 F.2d 353, 220 USPQ 111, 113 (Fed. Cir. 1983). As a general principle, the doctrine of foreign equivalents is limited to situations in which an American consumer is likely to "stop and translate" the foreign words into their English equivalent. *Palm Bay*, 73 USPQ2d at 1696 (quoting *In re Pan Tex Hotel Corp.*, 190 USPQ 109, 110 (TTAB 1976). The ordinary American purchaser includes "all American purchasers, including those proficient in a non-English language who would ordinarily be expected to translate words into English." *In re Spirits Int'l, N.V.*, 90 USPQ2d at 1492.

The record includes translations for MAGNESITA from three languages. In Italian the English equivalent is MAGNESIA. In Spanish and Portuguese the English equivalent is MAGNESITE.[4]

[4] March 18, 2010 Response p. 1. *See also* A PORTUGUESE-ENGLISH DICTIONARY (1958) March 27, 2014 Office action p. 23; Spanish Dictionary (www.spanishdict.com) February 27, 2013 Office action p. 2 (App. Serial No. 85834316).

We find it appropriate to apply the doctrine of foreign equivalents in this case. There is no evidence of record suggesting that the translation in this application is inaccurate, that MAGNESITA is so obscure it would not be easily recognized and translated by Spanish, Portuguese or Italian speakers in the U.S. marketplace, or that it is an idiom which is not equivalent to its direct English translation. Also, there can be no doubt that Spanish, Portuguese and Italian are common, modern languages.[5] *See Cordua Rests., Inc.*, ___ USPQ2d ___ ("Because 'churrasco' is a common word in Spanish and Portuguese and because the '191 Application itself concedes that 'churrascos' means 'barbecue,' the PTO would have been justified in translating 'churrascos' into 'barbecue' and subsequently determining whether the term 'barbecue' is generic when applied to restaurant services."). Purchasers of refractory products familiar with Spanish, Portuguese or Italian are likely to "stop and translate" MAGNESITA when encountering it used in connection with refractory products. We, therefore, find Applicant's mark to be equivalent to the English words "magnesite" and "magnesia" for purposes of determining genericness.

Applicant is described on its website as follows:

> Magnesita is the most integrated refractory industry in the world … Over 70% of the raw material used in production is taken from its own mines.[6]

---

[5] Spanish is widely spoken in the United States. See Spanish.about.com ("a new analysis of information gathered during the 2000 U.S. Census shows that nearly one out of five Americans speak a language other than English at home - and the vast majority of them speak Spanish."). November 5, 2010 Office action p. 8-9 and www.wikipedia.org ("Spanish is the second most-common language in the United States after English.") *Id*. at 11.

[6] February 22, 2013 Response p. 2.

In addition, the Examining Attorney submitted an excerpt from The Refractories Institute that includes the following information about Applicant:

> Magnesita Refratários S.A. … is a vertically integrated refractory producer supplying the steel, cement and various other industries. In addition, the Company exports some of its raw materials, DBM (Dead Burned Magnesia), and refractories to a wide range of countries. … The Company benefits from some of the largest and highest quality reserves of dolomite, magnesite and talc in the world. … Types of Products: Bricks and Shapes: … Magnesia Carbon, Magnesia Chrome, Magnesia Spinel[7]

The record includes the following definitions, descriptions of and use for "magnesite" and "magnesia":

> Magnesite: a mineral $MgCO_3$ that consists of magnesium carbonate, that is isomorphous with siderite and calcite, and that is used chiefly in making refractories and magnesia;[8]
>
> Magnesite uses include: refractory bricks, cement;[9]
>
> Magnesite – Magnesium Carbonate $MgCO_3$ … Uses … Dead-burned magnesia –DBM Sinter magnesia Basic refractories … Magnesium chloride - Cement Ceramics and refractories;[10]
>
> Peter W. Harben, Inc. showing magnesite and magnesia as a mineral used for refractories;[11]
>
> Similar to the production of lime, magnesite can be burned in the presence of charcoal to produce MgO, otherwise

---

[7] February 27, 2013 Office action pp. 12-13 (App. Serial No. 85834316).

[8] MERRIAM-WEBSTER UNABRIDGED DICTIONARY (2014), June 4, 2014 Response p. 2 (App. Serial No. 85834316).

[9] geology.com March 30, 2010 Office Action p. 2.

[10] mineralszone.com March 30, 2010 Office action at 6-8.

[11] peterharben.com March 30, 2010 Office action at 9.

known as periclase. Such periclase is an important product in refractory materials;[12]

Magnesite – noun a mineral, magnesium carbonate, $MgCO_3$, having a characteristic conchoidal fracture and usually occurring in white masses.;[13]

Magnesite is used as a refractory material, a catalyst and filler in the production of synthetic rubber, and a material in the preparation of magnesium chemicals and fertilizers;[14]

When heated to 1400-1500 ˚C, pure magnesite will be "dead burnt," containing less than 0.5% carbon dioxide. This is used as a refractory in the metallurgical industry;[15]

The Clay Brick & Product Manufacturing industry comprises establishments primarily engaged in manufacturing … fabricated nonclay refractories such as graphite, magnesite, silica, or alumina crucibles … ;[16]

What is Magnesia? Magnesia is a term used to describe various products from magnesium-rich sources. … The two most important magnesium minerals are magnesite ($MgCO_3$) and brucite ($Mv(OH)_2$). Magnesite is the most common source of magnesia and serves many important industrial applications. … The two most commercially important magnesia products are dead-burned magnesia and caustic-calcined magnesia. … Dead-burned magnesia, also known as refractory magnesia, is produced from the heating of magnesite or magnesium hydroxide and is the primary component in refractory materials. The refractory industry is the greatest consumer of magnesium compounds, overall. Refractory materials are nonmetallic substances which are extremely heat resistant and are of great industrial value as the linings in furnaces, kilns, and

---

[12] wikipedia.org March 30, 2010 Office action at 15.

[13] Dictionary.reference.com based on RANDOM HOUSE DICTIONARY (2010) November 5, 2010 Office action p. 2.

[14] Dictionary.reference.com November 5, 2010 Office action p. 3.

[15] Proquest (proquest.umi.com) May 27, 2011 Office action p. 4.

[16] Proquest (proquest.umi.com) May 27, 2011 Office action p. 5.

reactors. The steel industry, for instance, is the largest user of refractory magnesia;[17]

Magnesia. Magnesium oxide that has been specially processed. … magnesite. . … The term magnesite is loosely used as a synonym for magnesia as are also the terms caustic-calcined magnesite, dead-burned magnesite, and synthetic magnesite. … Use: To make the various grades of magnesium oxide, to produce carbon dioxide, refractory. … magnesite, dead-burned … MgO. The granular product obtained by burning (firing) magnesite or other substances convertible to magnesia upon heating above 1450C long enough to form granules suitable for use as a refractory (ASMT). Use: Refractories, as grains or basic brick, the latter especially in open hearth furnaces for steel, furnaces for nonferrous metal smelting, and in cement and other kilns;[18]

Dead-burned magnesia from magnesite, seawater, or well and like brines is used as a principal constituent in metallurgical furnace refractory products;[19]

Magnesite. A white to bluish-gray mineral used in the manufacture of bricks for basic refractory furnace linings and as an ore of magnesium;[20]

Magnesia refractory … Heat- and corrosion-resistant material made of magnesium oxide; used in cement or brick form to line high-temperature process vessels or furnaces;[21]

[17] Industrial Minerals Association North America (ima-na.org) January 9, 2012 p. 5-6.

[18] HAWLEY'S CONDENSED CHEMICAL DICTIONARY (14th ed. 2001) March 27, 2014 Office action pp. 2-5.

[19] CONCISE ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY VOL. 2 (5th ed. 2007) March 27, 2014 Office action p. 7.

[20] MATERIALS HANDBOOK (14th ed. 1997) March 27, 2014 Office action p. 11.

[21] DICTIONARY OF MATERIALS SCIENCE (2003) March 27, 2014 Office action p. 15.

> The oxides of aluminum (alumina), silicon (silica) and magnesium (magnesia) are the most important materials used in the manufacturing of refractories.[22]

Given its importance as a refractory material it is not surprising to find it used in naming various products. In the following examples "magnesite" and "magnesia" are used in naming a type of brick:

> Magnesia brick … Refractory brick produced from sintering or melting magnesia (s. Magnesia). Additional references: Basic lining Limestone Magnesia-chrome brickMagnesia brickMagnesite massLining … Magnesite mass Refractory mass produced from sintering or melting magnesia (s. Magnesia). Additional references: MagnesiteMagnesia brick, Magnesia-chrome brick Refractory materials Lining;[23]

> High grade DBM [dead burned magnesia] and EFM [electro fused magnesia] are used mainly in bricks/shapes to produce the following refractories: Magnesia carbon bricks, magnesia bricks, magnesia chrome bricks, magnesia spinel bricks, magnesia dolomite bricks, magnesia carbon alumina bricks;[24]

> RHI Basic bricks … Magnesite bricks RHI's objective is to increase your profitability. We do so by achieving a long service life with a high-quality selection of RHI refractory bricks. The right products to withstand severe conditions in alternative fuel fired cement kilns. … Top-grade magnesia spinel bricks … Magnesia chromite bricks.[25]

---

[22] Wikipedia (wikipedia.org) July 18, 2014 Office action p. 10.

[23] Foundry Lexicon (www.giessereilexikon.com) July 18, 2014 Office action pp. 3-4.

[24] ISPAT Guru (ispatguru.com) February 26, 2015 Office action p. 4.

[25] RHI (www.rhi-ag.com) November 10, 2014 Office action p. 2 (App. Serial No. 85834316).

The record also includes examples of other companies using the words "magnesite" or "magnesia" in connection with refractory products:

> Zircoa … Refractory Backup (Thermal Insulation) Extend the life of your furnace, and maintain tighter control over your furnace temperatures with Zircoa's pre-sintered grog refractory backup, Zircoa Backup 1859 –partially stabilized with magnesia and calcia. … Burner blocks are engineered to withstand high temperatures and the contaminants present in fuel oil, while providing the added resistance to corrosion. Either Calcia, Ytria or Magnesia stabilized Zirconium Oxide compositions will satisfy your unique requirements and extend burner block life to more than one year.;[26]
>
> Fire Brick Engineers Company … Refractory Brick Products … Brick by Resco, An American Owned Refractory Company … LadleMax AMG is an 80% alumina brick containing magnesia, antioxidants, and graphite. … This product is recommended for ladle bottoms and barrels of steel shops making aluminum-killed steels. … LadleMax AMG 90 SL is similar to AMG 90, but contains a higher quantity of magnesia for improved slag resistance.;[27]
>
> Minerals Technologies … Ferrocon SGS series, sprayable coating material is a proven performer for tundish wear lining. … It can be sprayed on any refractory surface up to 80˚C, which enables the steelmaker to utilize residual heat … Ferrocon Tundish Boards are designed and manufactured both in magnesite and silica compositions to match specific steel production needs. … FILLMIX 85T is a magnesite based moldable water-free mix for tundish coating.;[28]

---

[26] Zircoa (www.zircoa.com) February 26, 2015 Office action pp. 7-8.

[27] Fire Brick Engineers (www.firebrickengineers.com) February 26, 2015 Office action pp. 14 15.

[28] Minerals Tech (www.mineralstech.com) February 26, 2015 Office action pp. 18-20.

> Mt. Savage Firebrick … Tech Data Fireclay … Typical Chemical Analysis … Magnesium Oxide (MgO) .89;[29]
>
> Harbison Walker Refractories Company … Guidon … Classification: Burned Fused Grain Magnesite – Chrome Brick;[30]
>
> Plibrico Company LLC … Product Description A high alumina, magnesium aluminate spinel enriched, low cement castable. Vibration cast only.;[31]
>
> Morgan ThermalCeramics … Triangle 95C Magnesia … Description A high purity cast magnesia … Applications Induction melting crucibles for special alloy applications.;[32]
>
> Refractories Dead Burnt Magnesite/Fused Magnesite … This [sic] products are used in: Refractory Industry for manufacture of Basic Refractory Bricks … ;[33]
>
> Grecian Magnesite … New refractory fused magnesia product under the "PyrMag" brand, launched by Grecian Magnesite … for ever demanding, high-end refractory applications. … .[34]

There is no dispute and the record makes clear that magnesite and magnesia are the names of elements used in refractory products, including refractory bricks. Moreover, the record shows magnesite and magnesia are significant aspects of the refractory products. *See Cordua Rests. Inc.*, ___ USPQ2d ___ (quoting 2 McCarthy §12:23) ("A generic name of goods may also be a generic name of the services of selling

---

[29] Technical Data Sheet February 26, 2015 Office action p. 25.

[30] Technical Data Sheet February 26, 2015 Office action p. 26.

[31] Technical Data Sheet February 26, 2015 Office action p. 27.

[32] Technical Data Sheet February 26, 2015 Office action p. 28.

[33] Hindustan Produce Company (www.hindustanproduceco.com) November 10, 2014 Office action p. 5 (App. Serial No. 85834316).

[34] Grecian Magnesite (www.grecianmagnesite.com) November 10, 2014 Office action p. 8 (App. Serial No. 85834316).

or designing those goods."); *In re Hask Toiletries, Inc.*, 223 USPQ 1254 (TTAB 1984) (HENNA 'N' PLACENTA for hair conditioner, "designation accurately describes the two key elements of the product to which applied, invests these generic terms with no special or new significance or different commercial impression to support a finding of trademark 'capability'"). Significantly, the record includes examples where magnesite or magnesia are used to name or refer to a type of refractory brick (*e.g.*, magnesite brick, magnesia-chrome brick). Based on this evidence we have no doubt that potential purchasers familiar with Spanish, Portuguese or Italian would understand MAGNESITA to refer, at minimum, to a type of refractory brick, *i.e.*, a magnesite brick. *In re Central Sprinkler Co.*, 49 USPQ2d 1194 (TTAB 1998) (ATTIC generic for sprinklers because consumers would understand it to refer to a category of sprinklers). If the proposed mark is held generic for any of the goods identified in a class of an involved application, registration is properly refused. *See In re Analog Devices, Inc.*, 6 USPQ2d 1808, 1810 (TTAB 1988), *aff'd*, 871 F.2d 1097, 10 USPQ2d 1879 (Fed. Cir. 1989) (unpublished); and *In re Quick-Print Copy Shop, Inc.*, 205 USPQ 505, 507. *See also Cordua, Rests, Inc.*, ___ USPQ2d ___ ("[A] term is generic of the relevant public understands the term to refer to part of the claimed genus of goods or services, even if the public does not understand the term to refer to the broad genus as a whole.").

Applicant argues that other names are used for refractory products but that does not make this one less generic because "any term that the relevant public understands to refer to the genus … is generic." *In re 1800Mattress.com IP LLC*, 586

F.3d 1359, 92 USPQ2d 1682, 1685 (Fed. Cir. 2009). Moreover, simply because magnesite is generic for a mineral does not mean it cannot be generic for other goods.[35] In view of our findings, we hold that MAGNESITA is generic for the Class 19 goods.

Has MAGNESITA acquired distinctiveness?

We turn to the remaining issues in Application Serial No. 85834316, *i.e.*, whether the showing of acquired distinctiveness is sufficient to allow for registration of the merely descriptive term MAGNESITA for the goods or services.[36]

As noted above, in response to the mere descriptiveness refusals, Applicant submitted declarations asserting acquired distinctiveness. "[W]here registration was initially sought on the basis of distinctiveness, subsequent reliance by the applicant on Section 2(f) assumes that the mark has been shown or conceded to be merely descriptive." *Yamaha*, 6 USPQ2d at 1001. Accordingly, Applicant's claim of acquired distinctiveness is a concession that the mark is merely descriptive. *In re Cordua Rests. LP*, 110 USPQ2d 1227, 1233 (TTAB 2014), *aff'd*, *Cordua, Rests, Inc.*, ___ USPQ2d ___. Moreover, Applicant has the burden to establish a *prima facie* case of acquired distinctiveness. *Yamaha*, 6 USPQ2d at 1006.

[35] In support of its position that MAGNESITA is not generic, Applicant submitted evidence that it found no use of the term MAGNESITA on English language websites. This is not surprising or probative given it is not an English word.

[36] In view of our finding that the applied-for matter is generic for the goods in International Class 19, the refusal of registration must be affirmed. But for completeness we address the alternative issue of whether Applicant's proposed mark is merely descriptive and if it has acquired distinctiveness for those goods.

The amount and character of evidence required to establish acquired distinctiveness depends on the facts of each case and particularly on the nature of the mark sought to be registered. *See Roux Labs., Inc. v. Clairol Inc.*, 427 F.2d 823, 166 USPQ 34, 39 (CCPA 1970). Where a mark is highly descriptive, more evidence is required. *See, e.g., In re Steelbuilding.com,* 75 USPQ2d at 1420 ("[T]he applicant's burden of showing acquired distinctiveness increases with the level of descriptiveness; a more descriptive term requires more evidence of secondary meaning."); *In re Bongrain Int'l Corp.*, 894 F.2d 1316, 13 USPQ2d 1727, 1729 (Fed. Cir. 1990). Based on the evidence discussed above, we find that Applicant's mark is highly descriptive as used in connection with its goods and services.

In support of its assertion of acquired distinctiveness in Application Serial No. 85834315, Applicant submitted:[37] (1) a declaration by Applicant's outside counsel Thomas J. Moore, attesting to substantial and exclusive use since October 1, 2010;[38] (2) a Canadian registration for the mark MAGNESITA;[39] (3) a declaration by Kelly L. Myers, Applicant's General Counsel, attesting to gross sales between 2010 and

---

[37] Prior to seeking amendment to the Supplemental Register, Applicant submitted similar evidence in Application Serial No. 77873477: (1) a printout of its website showing its use (February 22, 2013 Response p. 2); (2) its International Registration No. 1050641 for the mark magnesita (February 22, 2013 Response p. 3); (3) a declaration by Kelly L. Myers, Applicant's General Counsel, attesting to substantially exclusive and continuous use in commerce in the United States "at least as early as October 1, 2010" for the goods and "at least as early as May 5, 2011" for the services (September 30, 2013 Response p. 2); (4) a Canadian registration for the mark MAGNESITA (March 14, 2014 Response p. 2); (5) an article from the trade publication *Industrial Minerals* showing Applicant's date of first use dating back to October, 2008 (March 14, 2014 Response p. 4); and (6) a declaration by Kelly L. Myers, attesting to gross sales between 2010 and 2012 (March 14, 2014 Response p. 6).

[38] March 6, 2014 Response p. 4 (App. Serial No. 85834316).

[39] March 6, 2014 Response p. 2 (App. Serial No. 85834316).

2012;[40] (4) an article from the trade publication *Industrial Minerals* showing Applicant's date of first use dating back to October 2008;[41] (5) a declaration by Kelly L. Myers attesting to gross sales in 2014;[42] and (6) a declaration by Thomas J. Moore attesting to Internet searches showing no third-party use of MAGNESITA for refractory products.[43]

While we *may* accept as *prima facie* evidence that a mark has become distinctive, "proof of substantially exclusive and continuous use thereof as a mark by the applicant in commerce for the five years before the date on which the claim of distinctiveness is made," 15 U.S.C. § 1052(f), because the mark is highly descriptive the statement of five years use alone is not sufficient.[44] Evidence of acquired distinctiveness can include the length of use of the mark, advertising expenditures, sales, survey evidence, and affidavits of customers asserting source-indicating recognition.

Despite the substantial gross annual sales, and length of use, there is no evidence of the extent to which the public perceives the term MAGNESITA as indicating source

[40] September 23, 2014 Response p. 2 (App. Serial No. 85834316).

[41] May 6, 2015 Response p. 2 (App. Serial No. 85834316).

[42] May 6, 2015 Response p. 4 (App. Serial No. 85834316).

[43] May 6, 2015 Response pp. 5-48 (App. Serial No. 85834316). A similar declaration with attached exhibits was submitted in Application Serial No. 77873477 for the purpose of showing no generic use of the term MAGNESITA as referenced *infra*. December 17, 2014 Response pp. 2-45.

[44] We note the actual declaration does not attest to five years use prior to the date of the declaration; however, we apply Applicant's later assertions regarding its earlier date of first use to its assertion of substantially exclusive use, which calculates to five and a half years in Application Serial No. 85834316.

in Applicant.[45] *In re Noon Hour Food Prods., Inc.*, 88 USPQ2d 1172 (TTAB 2008) (despite almost one hundred years of use and cancelled seventy-year old registration for BOND-OST for cheese, evidence insufficient to establish acquired distinctiveness of highly descriptive mark); *Target Brands, Inc. v. Shaun N.G. Hughes*, 85 USPQ2d 1676, 1681 (TTAB 2007) (sales alone without context not sufficient to establish acquired distinctiveness); *In re Candy Bouquet International, Inc.*, 73 USPQ2d 1883, 1889 (TTAB 2004) (sales and length of use not sufficient to establish acquired distinctiveness for highly descriptive term). *See also In re Boston Beer Co. L.P.*, 198 F.3d 1370, 53 USPQ2d 1056 (Fed. Cir. 1999) (claim based on annual sales under the mark of approximately $85 million, and annual advertising expenditures in excess of $10 million, not sufficient to establish acquired distinctiveness in view of highly descriptive nature of mark).

In view thereof, based on the totality of the evidence we find that Applicant has not established that MAGNESITA has acquired distinctiveness as a mark for either the refractory goods or the services of "providing information via a global computer network on constructing, maintaining, and repairing refractory apparatus using refractory products" or "providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus

---

[45] We note that while Trademark Rule 2.41(a) allows for reliance on prior registrations to prove acquired distinctiveness, the Rule only encompasses prior registrations on the United States Principal Register and does not extend to foreign or international registrations. *Cf. In re Bayer Aktiengesellschaft*, 488 F.3d 960, 82 USPQ2d 1828, 1835 (Fed. Cir. 2007) ("[E]vidence of registration of ASPIRINA in another country is of little value to our analysis of its entitlement to protection in the United States and we cannot say it overcomes the substantial evidence that otherwise supports the Board's decision in this case.").

using refractory products; and providing information via a global computer network on the use of mechanical equipment and computer models to construct, maintain and repair refractory installations."

Summary

In summary, the applied-for matter is generic for refractory products in International Class 19 in Application Serial Nos. 77873477 and 85834316, and in the alternative in Application Serial No. 85834316 it is highly descriptive of the refractory products and the showing for acquired distinctiveness is insufficient. In addition, the applied-for matter is highly descriptive of the services in International Class 37 and the showing for acquired distinctiveness is insufficient in Application Serial No. 85834316.

Decision: The refusals to register Applicant's proposed mark are affirmed in each application. Application Serial No. 85834316 is refused registration in both classes. The goods in International Class 19 in Application Serial No. 77873477 will be deleted and the application will be forwarded for registration of the services in Class 37 on the Supplemental Register.

Form PTO 55 (12-80)

U.S. DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

August 23, 2016
(Date)

THIS IS TO CERTIFY that the annexed is an accurate statement of the content entries in the file of the trademark applications identified below. The list was taken from the TSDR and TTABvue electronic databases of this Office and comprises the record before the United States Patent and Trademark Office.

The Trademark Applications of:

Applicant: Magnesita Refractories Company

Application Nos.: 77/873,477 and 85/834,316

Dates Filed: November 16, 2009 and January 28, 2013

Mark: MAGNESITA

By authority of the
DIRECTOR OF THE UNITED STATES
PATENT AND TRADEMARK OFFICE

/s/ *Krishawn D. Graham*

Certifying Officer

PROSECUTION HISTORY: SERIAL NO. 77/873,477
Federal Circuit Appeal No. 2016-2345
MARK: MAGNESITA

DATE	DESCRIPTION
11/16/2009	APPLICATION
11/16/2009	DRAWING
02/22/2010	XSEARCH SEARCH SUMMARY
02/22/2010	NON-FINAL OFFICE ACTION
03/18/2010	RESPONSE TO NON-FINAL OFFICE ACTION
03/27/2010	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
03/30/2010	NON-FINAL OFFICE ACTION
03/30/2010	EXAMINER'S AMENDMENT
03/31/2010	TRADEMARK SNAP SHOT PUBLICATION STYLESHEET
03/31/2010	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
09/27/2010	RESPONSE TO NON-FINAL OFFICE ACTION
09/28/2010	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
11/05/2010	NON-FINAL OFFICE ACTION
04/29/2011	RESPONSE TO NON-FINAL OFFICE ACTION
04/30/2011	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
05/27/2011	FINAL OFFICE ACTION
06/13/2011	REQUEST FOR RECONSIDERATION AFTER FINAL OFFICE ACTION
06/13/2011	SPECIMEN
06/13/2011	TRADEMARK/SERVICE MARK AMENDMENT TO ALLEGE USE
06/14/2011	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
06/21/2011	TRADEMARK SNAP SHOT AAU PROCESSING STYLESHEET
06/23/2011	NON-FINAL OFFICE ACTION
06/24/2011	NOTICE OF ACCEPTANCE OF AMENDMENT TO ALLEGE USE
12/15/2011	RESPONSE TO NON-FINAL OFFICE ACTION
12/17/2011	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
01/09/2012	FINAL OFFICE ACTION

01/12/2012	REQUEST FOR RECONSIDERATION AFTER FINAL OFFICE ACTION
01/13/2012	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
02/01/2012	NON-FINAL OFFICE ACTION
07/26/2012	RESPONSE TO NON-FINAL OFFICE ACTION
07/28/2012	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
08/28/2012	FINAL OFFICE ACTION
02/22/2013	REQUEST FOR RECONSIDERATION AFTER FINAL OFFICE ACTION
02/23/2013	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
03/28/2013	NON-FINAL OFFICE ACTION
09/20/2013	RESPONSE TO NON-FINAL OFFICE ACTION
09/21/2013	TRADEMARK SNAP SHOT AMENDMENT & AMIL PROCESSING STYLESHEET
09/30/2013	VOLUNTARY AMENDMENT
10/04/2013	FINAL OFFICE ACTION
10/04/2013	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
03/14/2014	REQUEST FOR RECONSIDERATION AFTER FINAL OFFICE ACTION
03/18/2014	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
03/27/2014	REQUEST FOR RECONDSIDERATION DENIED
03/29/2014	REQUEST FOR RECONSIDERATION AFTER FINAL OFFICE ACTION
04/12/2014	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
05/27/2014	NON-FINAL OFFICE ACTION
06/04/2014	RESPONSE TO NON-FINAL OFFICE ACTION
06/05/2014	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
07/18/2014	FINAL OFFICE ACTION
12/17/2014	REQUEST FOR RECONSIDERATION AFTER FINAL OFFICE ACTION
12/19/2014	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
02/10/2015	NOTE TO THE FILE
01/13/2015	NOTICE OF APPEAL
01/13/2015	ORDER: APPEAL ACKNOWLEDGED; CASE REMANDED

02/26/2015	REQUEST FOR RECONSIDERATION DENIED
03/02/2015	ORDER: PROCEEDINGS RESUMED
03/30/2015	APPLICANT'S BRIEF
03/31/2015	ORDER: APPEAL FORWARDED TO EXAMINER FOR BRIEF
05/14/2015	EXAMINING ATTORNEY'S APPEAL BRIEF
06/01/2015	CORRECTED EXAMINING ATTORNEY'S APPEAL BRIEF
06/19/2015	APPLICANT'S REPLY BRIEF
06/19/2015	REQUEST FOR ORAL HEARING
06/22/2015	ORDER: SCHEDULE ORAL HEARING
01/20/2016	ORDER: ORAL HEARING SCHEDULED
03/15/2016	ORAL HEARING APPEARANCE RECORD
05/17/2016	BOARD DECISION
07/14/2016	NOTICE OF APPEAL TO CAFC

PROSECUTION HISTORY: SERIAL NO. 85/834,316
Federal Circuit Appeal No. 2016-2345
MARK: MAGNESITA

DATE	DESCRIPTION
01/28/2013	APPLICATION
01/28/2013	DRAWING
01/28/2013	SPECIMEN
02/27/2013	XSEARCH SEARCH SUMMARY
02/27/2013	NON-FINAL OFFICE ACTION
08/14/2013	RESPONSE TO NON-FINAL OFFICE ACTION
08/15/2013	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
09/09/2013	FINAL OFFICE ACTION
03/06/2014	REQUEST FOR RECONSIDERATION AFTER FINAL OFFICE ACTION
03/07/2014	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
03/26/2014	NON-FINAL OFFICE ACTION
09/23/2014	RESPONSE TO NON-FINAL OFFICE ACTION
09/25/2014	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
11/10/2014	FINAL OFFICE ACTION

05/06/5015	REQUEST FOR RECONSIDERATION AFTER FINAL OFFICE ACTION
05/07/2015	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
05/07/2015	NOTICE OF APPEAL
05/07/2015	ORDER: APPEAL ACKNOWLEDGED; CASE REMANDED
07/13/2015	REQUEST FOR RECONSIDERATION DENIED
07/22/2015	ORDER: PROCEEDINGS RESUMED
09/21/2015	APPLICANT'S BRIEF
09/23/2015	ORDER: APPEAL FORWARDED TO EXAMINER FOR BRIEF
09/30/2015	TRADEMARK SNAP SHOT AMENDMENT & MAIL PROCESSING STYLESHEET
11/19/2015	EXAMINING ATTORNEY'S APPEAL BRIEF
12/08/2015	REQUEST FOR ORAL HEARING
12/09/2015	APPLICANT'S REPLY BRIEF
12/21/2015	ORDER: MEMO FORWARDING REPLY BRIEF
12/31/2015	ORDER: SCHEDULE ORAL HEARING
01/20/2016	ORDER: ORAL HEARING SCHEDULED
03/15/2016	ORAL HEARING APPEARANCE RECORD
05/17/2016	BOARD DECISION
07/14/2016	NOTICE OF APPEAL TO CAFC

PTO Form 1478 (Rev 9/2006)
OMB No. 0651-0009 (Exp 12/31/2011)

Trademark/Service Mark Application, Principal Register

Serial Number: 77873477
Filing Date: 11/16/2009

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	77873477
MARK INFORMATION	
***MARK**	MAGNESITA
STANDARD CHARACTERS	YES
USPTO-GENERATED IMAGE	YES
LITERAL ELEMENT	MAGNESITA
MARK STATEMENT	The mark consists of standard characters, without claim to any particular font, style, size, or color.
REGISTER	Principal
APPLICANT INFORMATION	
***OWNER OF MARK**	Magnesita Refratarios S.A.
***STREET**	Praca Lous Ensch, No. 240
***CITY**	Contagem, Minas Gerais
***COUNTRY**	Brazil
LEGAL ENTITY INFORMATION	
TYPE	corporation
STATE/COUNTRY OF INCORPORATION	Brazil
GOODS AND/OR SERVICES AND BASIS INFORMATION	
INTERNATIONAL CLASS	019
***IDENTIFICATION**	Refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes
FILING BASIS	SECTION 1(b)
INTERNATIONAL CLASS	035
***IDENTIFICATION**	Computerized online commercial stores featuring refractory products by means of the Internet
FILING BASIS	SECTION 1(b)
INTERNATIONAL CLASS	037
***IDENTIFICATION**	Providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus
FILING BASIS	SECTION 1(b)

ATTORNEY INFORMATION	
NAME	Thomas J. Moore
ATTORNEY DOCKET NUMBER	MAGN6002/TJM
FIRM NAME	Bacon & Thomas, PLLC
STREET	625 Slaters Lane, Fourth Floor
CITY	Alexandria
STATE	Virginia
COUNTRY	United States
ZIP/POSTAL CODE	22314-1176
PHONE	703-683-0500
FAX	703-683-1080
EMAIL ADDRESS	mail@baconthomas.com
AUTHORIZED TO COMMUNICATE VIA EMAIL	Yes
OTHER APPOINTED ATTORNEY	J. Ernest Kenney, Eugene Mar, Richard E. Fichter, Eric S. Spector, Felix J. D'Ambrosio, George A. Loud, Justin J. Cassell
DOMESTIC REPRESENTATIVE INFORMATION	
NAME	Bacon & Thomas, PLLC
STREET	625 Slaters Lane, Fourth Floor
CITY	Alexandria
STATE	Virginia
COUNTRY	United States
ZIP CODE	22314-1176
PHONE	703-683-0500
FAX	703-683-1080
EMAIL ADDRESS	mail@baconthomas.com
CORRESPONDENCE INFORMATION	
NAME	Thomas J. Moore
FIRM NAME	Bacon & Thomas, PLLC
STREET	625 Slaters Lane, Fourth Floor
CITY	Alexandria
STATE	Virginia
COUNTRY	United States
ZIP/POSTAL CODE	22314-1176
PHONE	703-683-0500
FAX	703-683-1080
EMAIL ADDRESS	mail@baconthomas.com
AUTHORIZED TO COMMUNICATE VIA EMAIL	Yes

FEE INFORMATION	
NUMBER OF CLASSES	3
FEE PER CLASS	325
*TOTAL FEE DUE	975
*TOTAL FEE PAID	325
SIGNATURE INFORMATION	
SIGNATURE	/Ronaldo Iabrudi dos Santos Pereira/
SIGNATORY'S NAME	Ronaldo Iabrudi dos Santos Pereira
SIGNATORY'S POSITION	Chief Executive Officer
DATE SIGNED	11/16/2009

PTO Form 1478 (Rev 9/2006)
OMB No. 0651-0009 (Exp 12/31/2011)

Trademark/Service Mark Application, Principal Register

Serial Number: 77873477
Filing Date: 11/16/2009

To the Commissioner for Trademarks:

MARK: MAGNESITA (Standard Characters, see mark)
The literal element of the mark consists of MAGNESITA.
The mark consists of standard characters, without claim to any particular font, style, size, or color.

The applicant, Magnesita Refratarios S.A., a corporation of Brazil, having an address of
Praca Lous Ensch, No. 240
Contagem, Minas Gerais
Brazil
requests registration of the trademark/service mark identified above in the United States Patent and Trademark Office on the Principal Register established by the Act of July 5, 1946 (15 U.S.C. Section 1051 et seq.), as amended, for the following:

International Class 019: Refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes
Intent to Use: The applicant has a bona fide intention to use or use through the applicant's related company or licensee the mark in commerce on or in connection with the identified goods and/or services. (15 U.S.C. Section 1051(b)).

International Class 035: Computerized online commercial stores featuring refractory products by means of the Internet
Intent to Use: The applicant has a bona fide intention to use or use through the applicant's related company or licensee the mark in commerce on or in connection with the identified goods and/or services. (15 U.S.C. Section 1051(b)).

International Class 037: Providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus
Intent to Use: The applicant has a bona fide intention to use or use through the applicant's related company or licensee the mark in commerce on or in connection with the identified goods and/or services. (15 U.S.C. Section 1051(b)).

The applicant's current Attorney Information:
Thomas J. Moore and J. Ernest Kenney, Eugene Mar, Richard E. Fichter, Eric S. Spector, Felix J. D'Ambrosio, George A. Loud, Justin J. Cassell of Bacon & Thomas, PLLC
625 Slaters Lane, Fourth Floor
Alexandria, Virginia 22314-1176
United States
The attorney docket/reference number is MAGN6002/TJM.

The applicant hereby appoints Bacon & Thomas, PLLC
625 Slaters Lane, Fourth Floor
Alexandria Virginia 22314-1176
United States
as applicant's representative upon whom notice or process in the proceedings affecting the mark may be served.
The applicant's current Correspondence Information:

Thomas J. Moore
Bacon & Thomas, PLLC
625 Slaters Lane, Fourth Floor
Alexandria, Virginia 22314-1176
703-683-0500(phone)
703-683-1080(fax)
mail@baconthomas.com (authorized)

A fee payment in the amount of $325 has been submitted with the application, representing payment for 1 class(es).

Declaration

The undersigned, being hereby warned that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. Section 1001, and that such willful false statements, and the like, may jeopardize the validity of the application or any resulting registration, declares that he/she is properly authorized to execute this application on behalf of the applicant; he/she believes the applicant to be the owner of the trademark/service mark sought to be registered, or, if the application is being filed under 15 U.S.C. Section 1051(b), he/she believes applicant to be entitled to use such mark in commerce; to the best of his/her knowledge and belief no other person, firm, corporation, or association has the right to use the mark in commerce, either in the identical form thereof or in such near resemblance thereto as to be likely, when used on or in connection with the goods/services of such other person, to cause confusion, or to cause mistake, or to deceive; and that all statements made of his/her own knowledge are true; and that all statements made on information and belief are believed to be true.

Signature: /Ronaldo Iabrudi dos Santos Pereira/ Date Signed: 11/16/2009
Signatory's Name: Ronaldo Iabrudi dos Santos Pereira
Signatory's Position: Chief Executive Officer

RAM Sale Number: 1441
RAM Accounting Date: 11/17/2009

Serial Number: 77873477
Internet Transmission Date: Mon Nov 16 15:18:04 EST 2009
TEAS Stamp: USPTO/BAS-XXX.XX.XXX.XX-2009111615180497
3862-77873477-46016085def09a31e25a57ff5c
7c89135f-CC-1441-20091116151642497215

MAGNESITA

MAGNESITA

*** User:dlehker ***

#	Total Marks	Dead Marks	Live Viewed Docs	Live Viewed Images	Status/ Search Duration	Search
01	441	N/A	0	0	0:02	*ma{"gj"}n{v}s*[bi,ti]
02	193	0	193	132	0:03	1 not dead[ld]
03	8	2	6	4	0:01	*refr{v}t*[bi,ti]
04	152	99	53	36	0:01	*refr{v}{"ckqx"}t*[bi,ti]
05	21663	N/A	0	0	0:02	"m"[bi,ti]
06	9	4	5	5	0:01	1 and 5
07	16504	N/A	0	0	0:01	260101[dc]
08	496	N/A	0	0	0:02	070706[DC]
09	5	1	4	4	0:01	7 and 8
10	233	154	4	79	0:01	5 and 7
11	4	1	3	3	0:01	5 and 8

Session started 2/22/2010 2:13:36 PM
Session finished 2/22/2010 2:21:17 PM
Total search duration 0 minutes 16 seconds
Session duration 7 minutes 41 seconds
Defaut NEAR limit=1ADJ limit=1

Sent to TICRS as Serial Number: 77873477

To:	Magnesita Refratarios S.A. (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	2/22/2010 2:26:33 PM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE

SERIAL NO: 77/873477

MARK: MAGNESITA

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

77873477

RESPOND TO THIS ACTION:
http://www.uspto.gov/teas/eTEASpageD.htm

GENERAL TRADEMARK INFORMATION:
http://www.uspto.gov/main/trademarks.htm

APPLICANT: Magnesita Refratarios S.A.

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6002/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

OFFICE ACTION

TO AVOID ABANDONMENT, THE OFFICE MUST RECEIVE A PROPER RESPONSE TO THIS OFFICE ACTION WITHIN 6 MONTHS OF THE ISSUE/MAILING DATE.

ISSUE/MAILING DATE: **2/22/2010**

The referenced application has been reviewed by the assigned trademark examining attorney. Applicant must respond timely and completely to the issue(s) below. 15 U.S.C. §1062(b); 37 C.F.R. §§2.62(a), 2.65(a); TMEP §§711, 718.03.
The trademark examining attorney has searched the Office's database of registered and pending marks and has found no conflicting marks that would bar registration under Trademark Act Section 2(d). TMEP §704.02; *see* 15 U.S.C. §1052(d).
Insufficient Fee
The application identifies goods and/or services that are classified in at least 3 classes; however, the fees submitted are sufficient for only 1 class(es). In a multiple-class application, a fee for each class is required. 37 C.F.R. §2.86(a)(2); TMEP §§810.01, 1403.01.
Therefore, applicant must either (1) restrict the application to the number of classes covered by the fee(s) already paid, or (2) submit the fees for the additional class(es).

Assuming the applicant pays the fee for the extra two classes in the application, then the applicant must also respond to the following.
Recitation of Services
The identification of services is indefinite and must be clarified because the current recitation in International Class 35 is unacceptable as indefinite. *See* TMEP §1402.01. Applicant may adopt the following identification, if accurate:
Computerized online retail store services featuring refractory products in International Class 35.
The identification of goods in International Class 19 is acceptable as written. The recitation of services is also acceptable as written.
For assistance with identifying and classifying goods and/or services in trademark applications, please see the online searchable *Manual of Acceptable Identifications of Goods and Services* at http://tess2.uspto.gov/netahtml/tidm.html. *See* TMEP §1402.04.
Identifications of services can be amended only to clarify or limit the services; adding to or broadening the scope of the services is not permitted. 37 C.F.R. §2.71(a); *see* TMEP §§1402.06 *et seq.*, 1402.07. Therefore, applicant may not amend the identification to include services that are not within the scope of the services set forth in the present identification.

Translation Required
The applicant will submit a translation of the non-English wording in the mark. 37 C.F.R. Section 2.61(b); TMEP section 809. The translation shall read as follows:

The English translation of **MAGNESITA** is ____________.

Please note that a supplemental search may be required of the translation.

If the applicant needs assistance in responding to this office action, please contact the examining attorney.

/Dawn Feldman Lehker/
Trademark Examining Attorney
United States Patent and Trademark Office
(571) 272-9381
F (571) 273-9111

RESPOND TO THIS ACTION: Applicant should file a response to this Office action online using the form at http://www.uspto.gov/teas/eTEASpageD.htm, waiting 48-72 hours if applicant received notification of the Office action via e-mail. For *technical* assistance with the form, please e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned examining attorney. **Do not respond to this Office action by e-mail; the USPTO does not accept e-mailed responses**.

If responding by paper mail, please include the following information: the application serial number, the mark, the filing date and the name, title/position, telephone number and e-mail address of the person signing the response. Please use the following address: Commissioner for Trademarks, P.O. Box 1451, Alexandria, VA 22313-1451.

STATUS CHECK: Check the status of the application at least once every six months from the initial filing date using the USPTO Trademark Applications and Registrations Retrieval (TARR) online system at http://tarr.uspto.gov. When conducting an online status check, print and maintain a copy of the complete TARR screen. If the status of your application has not changed for more than six months, please contact the assigned examining attorney.

To:	Magnesita Refratarios S.A. (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	2/22/2010 2:26:37 PM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

IMPORTANT NOTICE REGARDING YOUR TRADEMARK APPLICATION

Your trademark application (Serial No. 77873477) has been reviewed. The examining attorney assigned by the United States Patent and Trademark Office ("USPTO") has written a letter (an "Office action") on 2/22/2010 to which you must respond (*unless the Office letter specifically states that no response is required*). Please follow these steps:

1. Read the Office letter by clicking on this **link** **http://tmportal.uspto.gov/external/portal/tow?DDA=Y&serial_number=77873477&doc_type=OOA&mail_date=20100222** **OR** go to **http://tmportal.uspto.gov/external/portal/tow** and enter your serial number to access the Office letter. If you have difficulty accessing the Office letter, contact **TDR@uspto.gov**.

PLEASE NOTE: The Office letter may not be immediately available but will be viewable within 24 hours of this e-mail notification.

2. Contact the examining attorney who reviewed your application if you have any questions about the content of the Office letter (contact information appears at the end thereof).

3. Respond within 6 months, calculated from **2/22/2010** (*or sooner if specified in the Office letter*), using the Trademark Electronic Application System (TEAS) **Response to Office Action form**. If you have difficulty using TEAS, contact **TEAS@uspto.gov**.

ALERT:

Failure to file any required response by the applicable deadline will result in the ABANDONMENT (loss) of your application.

Do NOT hit "Reply" to this e-mail notification, or otherwise attempt to e-mail your response, as the USPTO does NOT accept e-mailed responses.

PTO Form 1957 (Rev 9/2005)
OMB No. 0651-0050 (Exp. 04/30/2011)

Response to Office Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	77873477
LAW OFFICE ASSIGNED	LAW OFFICE 111
MARK SECTION (no change)	
OWNER SECTION (current)	
NAME	Magnesita Refratarios S.A.
STREET	Praca Lous Ensch, No. 240
CITY	Contagem, Minas Gerais
COUNTRY	Brazil
OWNER SECTION (proposed)	
NAME	MAGNESITA REFRACTORIES COMPANY
STREET	P.O. Box 7708
CITY	York
STATE	Pennsylvania
ZIP/POSTAL CODE	17404
COUNTRY	United States
LEGAL ENTITY SECTION (current)	
TYPE	corporation
LEGAL ENTITY SECTION (proposed)	
TYPE	corporation
STATE/COUNTRY OF INCORPORATION	Pennsylvania
ARGUMENT(S)	

Owner

Please amend the owner to the following in accord with the Assignment recorded at reel 4168, frame 678, on March 17, 2010:

MAGNESITA REFRACTORIES COMPANY P.O. Box 7708 York, Pennsylvania 17404

Filing Fee

Applicant submits herewith the filing fee for two additional Classes, and thereby overcomes the objection.

Goods and Services

There is no objection to the identification of goods in Class 19 and recitation of services in Class 37, which are not amended. The Office Action suggests an amendment of Class 35 which is inaccurate, and the present amendment is in accord with the online Trademark ID Manual.

Applicant maintains that the identification of goods and services is in full compliance with the statute and regulations, but in order to expedite the application, please amend the identification of services in Class 35 as stated herein to the following: On-line wholesale and retail store services featuring refractory products

Applicant makes the present amendment of the identification of goods and services without surrendering any of the scope of the previous identification of goods and services. Thus, if any further amendments are required in order to obtain approval, then Applicant is entitled to the full scope of the previous identification of goods and services. At the time that the application is approved, Applicant surrenders the scope of the previous identification of goods and services to the extent that it exceeds the approved identification of goods and services.

Translation

In response to the Office Action, Applicant states as follows:

The English translation of "magnesita" is "magnesia" from Italian and "magnesite" from Spanish and Portuguese.

See the attached online translations.

Conclusion

Applicant submits that the application should be approved for publication.

EVIDENCE SECTION	
EVIDENCE FILE NAME(S)	
JPG FILE(S)	\\TICRS\EXPORT9\IMAGEOUT9 \778\734\77873477\xml3\RO A0002.JPG
	\\TICRS\EXPORT9\IMAGEOUT9\778\734\77873477\xml3\ROA0003.JPG
	\\TICRS\EXPORT9\IMAGEOUT9\778\734\77873477\xml3\ROA0004.JPG
ORIGINAL PDF FILE	evi_651641616-150218957_._2010-03-17_Power_of_Attorney_77873477.pdf
CONVERTED PDF FILE(S) (1 page)	\\TICRS\EXPORT9\IMAGEOUT9\778\734\77873477\xml3\ROA0005.JPG
DESCRIPTION OF EVIDENCE FILE	3 online translations; Power of Attorney from Assignee
GOODS AND/OR SERVICES SECTION (019)(no change)	
GOODS AND/OR SERVICES SECTION (035)(current)	
INTERNATIONAL CLASS	035
DESCRIPTION	
Computerized online commercial stores featuring refractory products by means of the Internet	
FILING BASIS	Section 1(b)
GOODS AND/OR SERVICES SECTION (035)(proposed)	
INTERNATIONAL CLASS	035
TRACKED TEXT DESCRIPTION	
~~Computerized online commercial stores featuring refractory products by means of the Internet~~; On-line wholesale and retail store services featuring refractory products	
FINAL DESCRIPTION	
On-line wholesale and retail store services featuring refractory products	
FILING BASIS	Section 1(b)
GOODS AND/OR SERVICES SECTION (037)(no change)	
PAYMENT SECTION	

NUMBER OF CLASSES	2
FEE PER CLASS	325
TOTAL FEES DUE	650
SIGNATURE SECTION	
RESPONSE SIGNATURE	/ThomasJMoore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. bar member
DATE SIGNED	03/18/2010
AUTHORIZED SIGNATORY	YES
FILING INFORMATION SECTION	
SUBMIT DATE	Thu Mar 18 15:14:44 EDT 2010
TEAS STAMP	USPTO/ROA-XXX.XX.XXX.XX-2 0100318151444531862-77873 477-4609bcbdbe080f33ca66c 3acbe69f4c26e8-CC-1490-20 100318150218957532

PTO Form 1957 (Rev 9/2005)
OMB No. 0651-0050 (Exp. 04/30/2011)

Response to Office Action

To the Commissioner for Trademarks:

Application serial no. **77873477** has been amended as follows:

ARGUMENT(S)
In response to the substantive refusal(s), please note the following:

Owner

Please amend the owner to the following in accord with the Assignment recorded at reel 4168, frame 678, on March 17, 2010:

MAGNESITA REFRACTORIES COMPANY P.O. Box 7708 York, Pennsylvania 17404

Filing Fee

Applicant submits herewith the filing fee for two additional Classes, and thereby overcomes the objection.

Goods and Services

There is no objection to the identification of goods in Class 19 and recitation of services in Class 37, which are not amended. The Office Action suggests an amendment of Class 35 which is inaccurate, and the present amendment is in accord with the online Trademark ID Manual.

Applicant maintains that the identification of goods and services is in full compliance with the statute and regulations, but in order to expedite the application, please amend the identification of services in Class 35 as stated herein to the following: On-line wholesale and retail store services featuring refractory products

Applicant makes the present amendment of the identification of goods and services without surrendering any of the scope of the previous identification of goods and services. Thus, if any further amendments are required in order to obtain approval, then Applicant is entitled to the full scope of the previous identification of goods and services. At the time that the application is approved, Applicant surrenders the scope of the previous identification of goods and services to the extent that it exceeds the approved identification of goods and services.

Translation

In response to the Office Action, Applicant states as follows:

The English translation of "magnesita" is "magnesia" from Italian and "magnesite" from Spanish and Portuguese.

See the attached online translations.

Conclusion

Applicant submits that the application should be approved for publication.

EVIDENCE
Evidence in the nature of 3 online translations; Power of Attorney from Assignee has been attached.
JPG file(s):
Evidence-1
Evidence-2
Evidence-3
Original PDF file:
evi_651641616-150218957_._2010-03-17_Power_of_Attorney_77873477.pdf
Converted PDF file(s) (1 page)
Evidence-1

CLASSIFICATION AND LISTING OF GOODS/SERVICES
Applicant proposes to amend the following class of goods/services in the application:
Current: Class 035 for Computerized online commercial stores featuring refractory products by means of the Internet
Original Filing Basis:
Filing Basis: Section 1(b), Intent to Use: The applicant has a bona fide intention to use or use through the applicant's related company or licensee the mark in commerce on or in connection with the identified goods and/or services as of the filing date of the application. (15 U.S.C. Section 1051(b)).

Proposed:
Tracked Text Description: ~~Computerized online commercial stores featuring refractory products by means of the Internet~~; On-line wholesale and retail store services featuring refractory products

Class 035 for On-line wholesale and retail store services featuring refractory products
Filing Basis: Section 1(b), Intent to Use: The applicant has a bona fide intention to use or use through the applicant's related company or licensee the mark in commerce on or in connection with the identified goods and/or services as of the filing date of the application. (15 U.S.C. Section 1051(b)).

APPLICANT AND/OR ENTITY INFORMATION
Applicant proposes to amend the following:
Current: Magnesita Refratarios S.A., a corporation of BRAZIL (BRX), having an address of
Praca Lous Ensch, No. 240
Contagem, Minas Gerais,
Brazil

Proposed: MAGNESITA REFRACTORIES COMPANY, a corporation of Pennsylvania, having an address of
P.O. Box 7708
York, Pennsylvania 17404
United States

FEE(S)

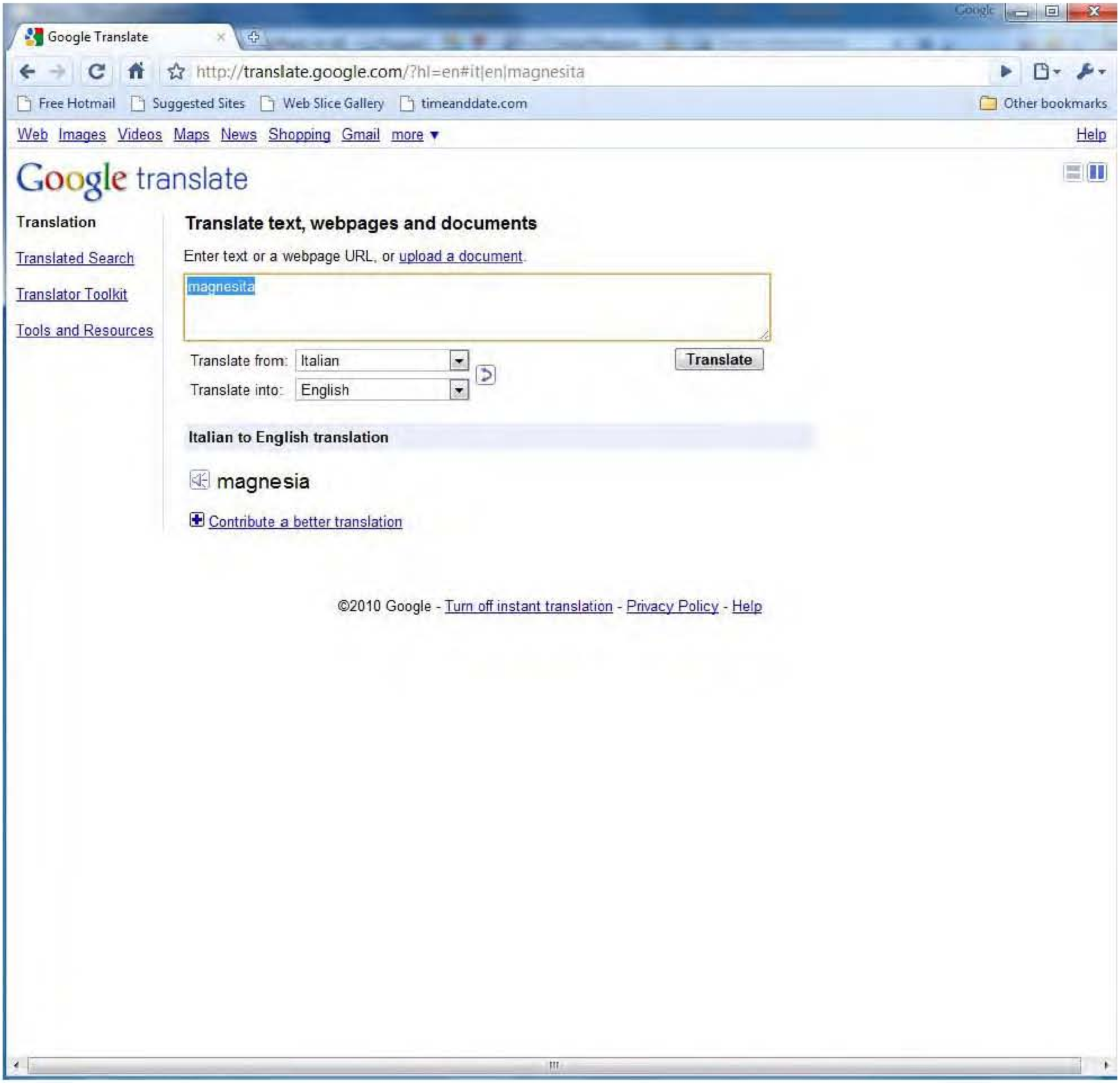
Fee(s) in the amount of $650 is being submitted.

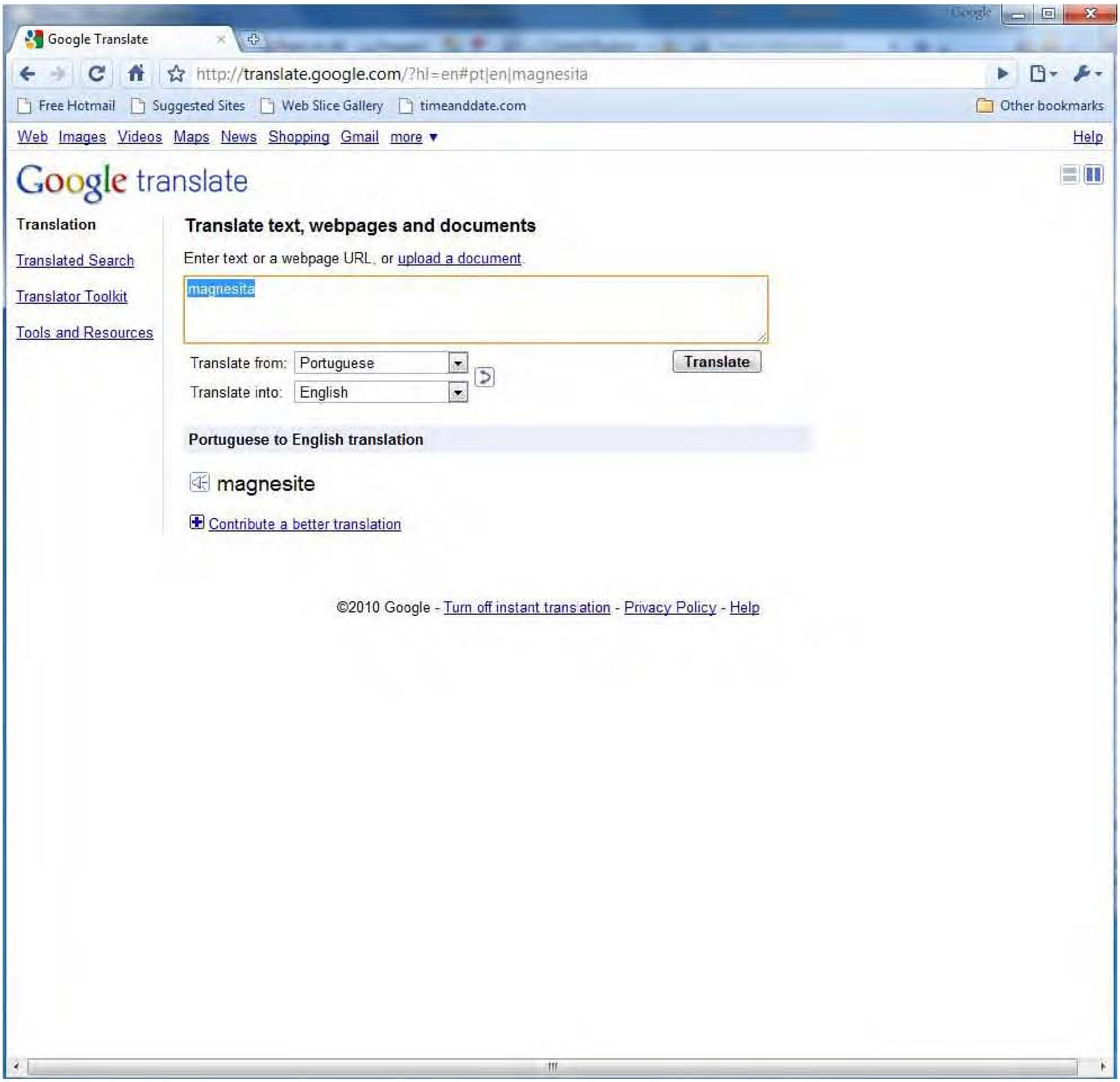
SIGNATURE(S)
Response Signature
Signature: /ThomasJMoore/ Date: 03/18/2010
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. bar member

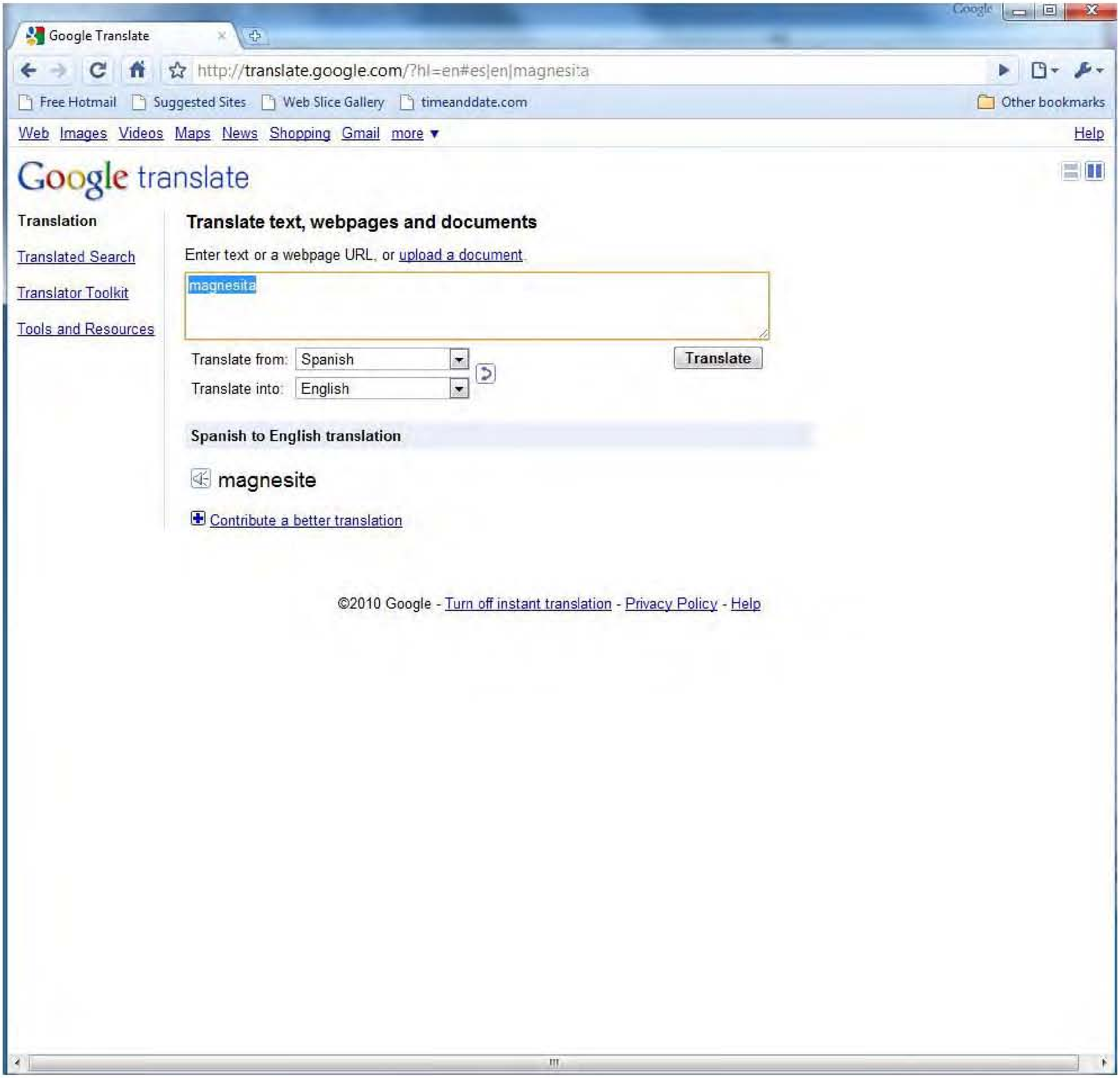
The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

RAM Sale Number: 1490
RAM Accounting Date: 03/19/2010

Serial Number: 77873477
Internet Transmission Date: Thu Mar 18 15:14:44 EDT 2010
TEAS Stamp: USPTO/ROA-XXX.XX.XXX.XX-2010031815144453
1862-77873477-4609bcbdbe080f33ca66c3acbe
69f4c26e8-CC-1490-20100318150218957532


Google Translate
http://translate.google.com/?hl=en#it|en|magnesita
Free Hotmail
Suggested Sites
Web Slice Gallery
timeanddate.com
Other bookmarks
Web Images Videos Maps News Shopping Gmail more
Help
Google translate
Translation
Translated Search
Translator Toolkit
Tools and Resources
Translate text, webpages and documents
Enter text or a webpage URL, or upload a document.
magnesita
Translate from: Italian
Translate into: English
Translate
Italian to English translation
magnesia
Contribute a better translation
©2010 Google - Turn off instant translation - Privacy Policy - Help


Google Translate
http://translate.google.com/?hl=en#pt|en|magnesita
Free Hotmail
Suggested Sites
Web Slice Gallery
timeanddate.com
Other bookmarks
Web Images Videos Maps News Shopping Gmail more ▾
Help
Google translate
Translation
Translated Search
Translator Toolkit
Tools and Resources
Translate text, webpages and documents
Enter text or a webpage URL, or upload a document.
magnesita
Translate from: Portuguese
Translate into: English
Translate
Portuguese to English translation
magnesite
Contribute a better translation
©2010 Google - Turn off instant translation - Privacy Policy - Help


Google Translate
http://translate.google.com/?hl=en#es|en|magnesita
Free Hotmail
Suggested Sites
Web Slice Gallery
timeanddate.com
Other bookmarks
Web Images Videos Maps News Shopping Gmail more ▼
Help
Google translate
Translation
Translated Search
Translator Toolkit
Tools and Resources
Translate text, webpages and documents
Enter text or a webpage URL, or upload a document
magnesita
Translate from: Spanish
Translate into: English
Translate
Spanish to English translation
magnesite
Contribute a better translation
©2010 Google - Turn off instant translation - Privacy Policy - Help

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.:	**77873477**
Application Filing Date:	November 16, 2009
Mark:	MAGNESITA
Owner:	Magnesita Refractories Company P.O. Box 7708 York, Pennsylvania 17404

POWER OF ATTORNEY

Commissioner for Trademarks
P.O. Box 1451
Alexandria, VA 22313-1451

Madam:

Owner hereby revokes all previous powers of attorney and appoints J. Ernest Kenney, Eugene Mar, Richard E. Fichter, Thomas J. Moore, Eric S. Spector, Felix J. D'Ambrosio, George A. Loud, and Justin J. Cassell, all with Bacon & Thomas, PLLC (address stated below) as Owner's attorneys with full powers of association, substitution and revocation, to transact all business in the U.S. Patent and Trademark Office associated with the present application, to prosecute the present application, and to receive the certificate of registration. The Commissioner is authorized to send email to mail@baconthomas.com. Owner instructs Bacon & Thomas, PLLC to take instructions regarding the mark from Owner's agent, who transmits this document to Bacon & Thomas, PLLC. Please address all correspondence as follows:

BACON & THOMAS, PLLC
625 Slaters Lane, Fourth Floor
Alexandria, Virginia 22314-1176

Respectfully signed,

Date: 3-17-10

Name and Title: Kelly L. Myers, General Counsel

S:\Producer\tjm\ip\ASSI7020\2010-02-26 '477 appl. Power of Attorney.appl.wpd

RAM SALE NUMBER: 1490
RAM ACCOUNTING DATE: 20100319

INTERNET TRANSMISSION DATE: 2010/03/18

SERIAL NUMBER: 77/873477

Description	Fee Code	Transaction Date	Fee	Number Of Classes	Total Fees Paid
New App	7001	2010/03/18	325	2	650

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	3/30/2010 9:12:27 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	Attachment - 1 Attachment - 2 Attachment - 3 Attachment - 4 Attachment - 5 Attachment - 6 Attachment - 7 Attachment - 8 Attachment - 9 Attachment - 10 Attachment - 11 Attachment - 12 Attachment - 13 Attachment - 14

UNITED STATES PATENT AND TRADEMARK OFFICE

SERIAL NO: 77/873477

MARK: MAGNESITA

77873477

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

RESPOND TO THIS ACTION:
http://www.uspto.gov/teas/eTEASpageD.htm

GENERAL TRADEMARK INFORMATION:
http://www.uspto.gov/main/trademarks.htm

APPLICANT: MAGNESITA REFRACTORIES COMPANY

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6002/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

OFFICE ACTION

TO AVOID ABANDONMENT, THE OFFICE MUST RECEIVE A PROPER RESPONSE TO THIS OFFICE ACTION WITHIN 6 MONTHS OF THE ISSUE/MAILING DATE.

ISSUE/MAILING DATE: **3/30/2010**

This letter responds to the applicant's correspondence filed on March 26, 2010.

The applicant's amendment to the recitation of services and the translation have been made of record.

The application is now refused as follows.

Refusal-Mark is Merely Descriptive
Registration is refused because the applied-for mark merely describes the input materials of the applicant's goods and services. Trademark Act Section 2(e)(1), 15 U.S.C. §1052(e)(1); *see* TMEP §§1209.01(b), 1209.03 *et seq.*

The applicant's mark is MAGNESITA for refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes; on-line wholesale and retail store services featuring refractory products; and providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus.

The determination of whether a mark is merely descriptive is considered in relation to the identified goods and/or services, not in the abstract. *In re Abcor Dev. Corp.*, 588 F.2d 811, 814, 200 USPQ 215, 218 (C.C.P.A. 1978); TMEP §1209.01(b); *see, e.g., In re Polo Int'l Inc.* , 51 USPQ2d 1061 (TTAB 1999) (finding DOC in DOC-CONTROL would be understood to refer to the "documents" managed by applicant's software, not "doctor" as shown in dictionary definition); *In re Digital Research Inc.*, 4 USPQ2d 1242 (TTAB 1987) (finding CONCURRENT PC-DOS merely descriptive of "computer programs recorded on disk" where relevant trade used the denomination "concurrent" as a descriptor of a particular type of operating system). "Whether consumers could guess what the product is from consideration of the mark alone is not the test." *In re Am. Greetings Corp.*, 226 USPQ 365, 366 (TTAB 1985).

"A mark may be merely descriptive even if it does not describe the 'full scope and extent' of the applicant's goods or services." *In re Oppedahl & Larson LLP*, 373 F.3d 1171, 1173, 71 USPQ2d 1370, 1371 (Fed. Cir. 2004) (citing *In re Dial-A-Mattress Operating Corp.*, 240 F.3d 1341, 1346, 57 USPQ2d 1807, 1812 (Fed. Cir. 2001)); TMEP §1209.01(b). It is enough if the term describes only one significant function, attribute or property. *In re Oppedahl*, 373 F.3d at 1173, 71 USPQ2d at 1371; TMEP §1209.01(b).

The English translation of MAGNESITA is magnesia or magnesite. The examining attorney has attached copies of webpages discussing the mineral magnesite and its uses. One of the main uses of magnesite is in refractories and refractory bricks. The applicant's goods are refractory bricks and other refractory products. The applicant's mark describes the main ingredient or input of the goods sold by the applicant.

For the above reasons the mark is refused under Section 2(e)(1).

If the applicant needs assistance in responding to this office action, please contact the examining attorney.

/Dawn Feldman Lehker/
Trademark Examining Attorney
United States Patent and Trademark Office
(571) 272-9381
F (571) 273-9111

RESPOND TO THIS ACTION: Applicant should file a response to this Office action online using the form at http://www.uspto.gov/teas/eTEASpageD.htm, waiting 48-72 hours if applicant received notification of the Office action via e-mail. For *technical* assistance with the form, please e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned examining attorney. **Do not respond to this Office action by e-mail; the USPTO does not accept e-mailed responses**.

If responding by paper mail, please include the following information: the application serial number, the mark, the filing date and the name, title/position, telephone number and e-mail address of the person signing the response. Please use the following address: Commissioner for Trademarks, P.O. Box 1451, Alexandria, VA 22313-1451.

STATUS CHECK: Check the status of the application at least once every six months from the initial filing date using the USPTO Trademark Applications and Registrations Retrieval (TARR) online system at http://tarr.uspto.gov. When conducting an online status check, print and maintain a copy of the complete TARR screen. If the status of your application has not changed for more than six months, please contact the assigned examining attorney.

http://geology.com/minerals/magnesite.shtml 03/30/2010 08:55:30 AM

geology.com

Custom Search | Search

Geology.com | News | Careers | Articles | US Maps | World Maps | Satellite Images | Dictionary | Tumblers | Store

Link to Geology.com

Bookmark

Site Search

Search

Home » Minerals » Magnesite

Magnesite - Mineral Properties and Uses

Uses	Magnesite uses include: refractory bricks, cement,.
Color	white, grayish, yellowish, brownish, colorless
Streak	white
Luster	vitreous
Diaphaneity	transparent to translucent
Cleavage	perfect
Hardness	3.5 - 5.0
Specific Gravity	3.0 - 3.2
Distinguishing Characteristics	dissolves with warm HCl in the powdered form
Crystal System	hexagonal

Magnesite Pictures

http://geology.com/minerals/magnesite.shtml 03/30/2010 08:55:30 AM

Most Popular
What is Geology?
What is Earth Science?
Geology Articles
Geology News
Geology Dictionary
US Map Collections
World Map Collection
Mineral Rights
What Causes a Tsunami?
Selecting a Tumbler

Google Maps
San Andreas Fault Map
Meteor Crater Map
Below Sea Level
State High Points Map
Sahara Desert Map
Plate Tectonics Map
Topo Maps

Satellite Images
US Cities
US States
World Countries
Africa
Asia
Australia
Canada
Central America
Europe
South America
United States
World

US Geology & Maps

Magnesite from Chewelah, Washington.
Specimen is approximately 3-1/2 inches (8.9 centimeters) across.

http://geology.com/minerals/magnesite.shtml 03/30/2010 08:55:30 AM

US Geology & Maps

Alabama
Alaska
Arizona
Arkansas
California
Colorado
Connecticut
Delaware
Florida
Georgia
Hawaii
Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Louisiana
Maine
Maryland
Massachusetts
Michigan
Minnesota
Mississippi
Missouri
Montana
Nebraska
Nevada
New Hampshire
New Jersey
New Mexico
New York
North Carolina
North Dakota
Ohio
Oklahoma
Oregon
Pennsylvania
Rhode Island
South Carolina
South Dakota
Tennessee
Texas

Magnesite from Riverside County, California.
Specimen is approximately 4 inches (10 centimeters) across.

Magnesite from Chewelah, Washington.
Specimen is approximately 2-1/2 inches (6.4 centimeters) across.

More Information About Minerals!

http://geology.com/minerals/magnesite.shtml 03/30/2010 08:55:30 AM

Texas
Utah
Vermont
Virginia
Washington
West Virginia
Wisconsin
Wyoming
Minerals

More Information About Minerals:

- Mineral Collection
- Printable Mineral Identification Chart
- News About Minerals
- Mineral Rights vs. Surface Property Owner's Rights
- Photo Report - Tucson Gem and Mineral Show
- Photo Report - Denver Gem and Mineral Show
- Rock Tumblers & Rock Polishing
- Herkimer Diamonds
- United States Gemstones
- Interesting Uses of Gold

Mineral photographs that appear on this page with a Geology.com copyright mark are property of Geology.com and may not be used beyond our website. If you like these photos and would like to share them with others please link to this page or email its URL. The photos were taken and composed by Ann Bryant.

Magnesite

Magnesium Carbonate
$MgCO_3$

Magnesium is the eighth most abundant element in the Earth's crust and can be found in 60 different minerals.

The Present Scenario

Notable Occurrences are Austria; Bahia, Brazil; Korea; China; California, USA and many European localities.

Magnesite does not ordinarily form good crystals, but can make up a substantial portion of some rock types. It forms commonly from the alteration of magnesium-rich rocks during low grade metamorphism while they are in contact with carbonate-rich solutions. Magnesite has the same crystal structure of calcite, hence its inclusion into the calcite mineral group. Many of the properties of magnesite are either identical or similar to those of calcite. However, the magnesium ion does not allow the carbonate ion (CO_3) to interact as easily with cold acids, as the calcium ion does in calcite. This provides the best means of distinguishing magnesite from calcite. However, dolomite($MgCa(CO_3)_2$) can be almost indistinguishable from magnesite.

Physical Characteristics

- Color is white or gray, also tinted yellow or brown.
- Luster is vitreous.
- Transparency crystals are translucent to transparent only in individual crystals.

crystals.

- Crystal System is trigonal; bar 3 2/m
- Crystal Habits are usually massive forms such as lamellar, fiberous and course to fine grained rocks. Crystals are extremely rare, but when found are in the form of rhombohedrons or hexagonal prisms with a pinacoid termination.
- Cleavage is perfect in three directions forming rhombohedrons.
- Fracture is conchoidal to uneven.
- Hardness is 4 - 4.5.
- Specific Gravity is approximately 3.0 (average)
- Streak is white.
- Associated Minerals calcite, dolomite, aragonite, strontianite and serpentine.
- Other Characteristics: effervesces easily only in hot dilute hydrochloric acid.
- Notable Occurrences include Austria; Bahia, Brazil; Korea; China; California, USA and many European localities.
- Best Field Indicators are crystal habit, reaction to acid, occurrence and cleavage.

Uses

- **Dead-burned magnesia - DBM Sinter magnesia**
  Basic refractories

- **Fused or electrofused magnesia - FM**
  Thermal insulation (refractories)
  Electrical insulation (electric ovens and appliances)

- **Caustic-calcined magnesia - CCM**
  Extraction of magnesium
  Production of fused magnesia
  Cement, Insulation
  Paper
  Fertilizer and animal feed
  Stabilizer during vulcanization of rubber
  Production of uranium
  Chemical and environmental applications (notably in water treatment and gas desulfurization)

- **Magnesite or magnesium carbonate (precipitated)**
  Insulation, Rubber
  Paint pigments and Ink
  Glass and ceramics
  Chemistry

- **Brucite or magnesium hydroxide**
  Sugar refining
  Flame and smoke retardants
  Chemical and environmental applications (notably in water treatment)
  Pharmaceuticals

http://www.mineralszone.com/minerals/magnesite.html 03/30/2010 08:56:31 AM

- Silica
- Sillimanite
- Silver
- Slate
- Sodium
- Sodium Bicarbonate
- Sodium Carbonate
- Sodium Sulfate
- Staurolite
- Strontium
- Sulphur
- Talc
- Tourmaline
- Ulexite
- Vanadinite
- Vermiculite
- Wollastonite
- Wulfenite
- Xenotime
- Zeolites
- Zircon & allied mineral
- Zoisite

Stones

Gemstones

- **Magnesium chloride**
  Cement
  Ceramics and refractories
  Textiles, Paper
  Chemical applications
  Prcduction of magnesium

- **Magneslum sulfate**
  Pulp and paper
  Animal feed
  Pharmaceuticals

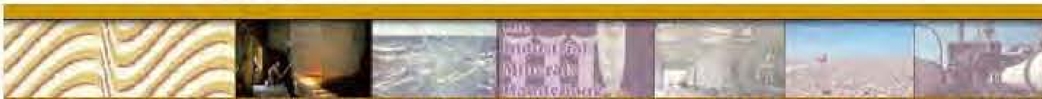
Industrial Minerals | Stones | Gemstones

Stone gallery | Organisations | Tradeshows | Mineral News | Publications | Glossary

http://www.peterharben.com/industrial_minerals_uses.htm 03/30/2010 09:01:22 AM

PETER W. HARBEN, INC
INDUSTRIAL MINERALS CONSULTANTS

Without a market, a deposit is merely a geologic curiosity



HOME CONSULTING ARTICLES PUBLICATIONS MINERALS LINKS CONTACT

Market Studies
Clients
Applications
Countries

APPLICATIONS

CONSTRUCTION		
END USER INDUSTRY	PRODUCT/ FUNCTION	MINERALS
Building materials	Aggregate	Crushed granite, gabbro, basalt, diorite, syenite, dolomite, limestone, coral, shell, chert, sandstone, greywacke, quartzite Sand & gravel
	Brickmaking	Clay (common) Manganese Silica
	Lightweight aggregate	Clay (expanded) Perlite Pumice Shale (expanded) Vermiculite
	Dimension stone	Granite Marble Slate Limestone Travertine Sandstone
Cement	Basic ingredient	Limestone
	Additives	Bauxite & alumina Clay (common) Gypsum Iron oxide Pumice Silica sand Vermiculite
Insulation materials	Insulator	Asbestos Diatomite Perlite Pumice Vermiculite Wollastonite Zeolites
Wallboard & plaster	Basic ingredient	Gypsum
	Additives	Asbestos Lime Mica Vermiculite
METALLURGICAL PROCESSING & MANUFACTURING		
END USER INDUSTRY	PRODUCT/ FUNCTION	MINERALS
Raw material feedstock & alloying agents	Feedstock	Antimony oxide Beryllium Bauxite Chromite Iron oxide Manganese Silica/quartz Sulfur Titanium minerals (ilmenite/rutile) Zircon
Refractories	Refractories	Asbestos Bauxite & alumina Chromite Clays (refractory clays) Dolomite Graphite Kyanite Magnesite & magnesia Olivine Pyrophyllite Silica/quartz Zircon
Foundry products	Binder	Bentonite
	Foundry sand	Chromite Olivine Pyrophyllite Silica sand

	Foundry sand	Chromite Olivine Pyrophyllite Silica sand Zircon
	Heat control	Graphite Perlite Vermiculite
	Investment casting	Bauxite & alumina Clays (kaolin) Graphite Silica sand Zircon
Fluxes (soldering, welding, & smelting)	Fluxing agent	Borates Dolomite Fluorspar Limestone & lime Magnesite & magnesia Siica sand Titanium minerals (ilmenite, rutile) Wollastonite
Abrasives	Abrasive	Bauxite & alumina fused alumina) Corundum/emery Diamonds Diatomite Feldspar Garnet Iron oxide (magnetite) Nepheline syenite Olivine Perlite Pumice Silica (sand tripoli and silicon carbide) Titanium minerals (ilmenite)
Lubricants	Lubricant	Graphite Lithium Mica Talc
Frction materials	Friction material	Asbestos Bauxite & alumina Clays (attapulgite, sepiolite) Garnet Graphite Pyrophyllite Wollastonite Zircon
	Fillers	Barite Clay (kaolin) Gypsum Pumice Mica Silica Slate Zircon
Gems & jewelry	Feedstock	Bauxite & alumina Diamonds Garnet Iron oxide Rare earths Zircon

CHEMICALS

END USER INDUSTRY	PRODUCT/ FUNCTION	MINERALS
Chemical manufacture	Feedstock	Antimony oxide Barite Bauxite & alumina Borates Bromine Celestite Chromite Dolomite Fluorspar Iodine Iron oxide Limestone Lithium minerals Magnesite Manganese Nitrates Phosphates Potash Rare earths Salt Silica/quartz Soda ash Sodium sulfate Sulfur Titanium minerals (ilmenite, rutile) Zircon
Explosives/pyrotechnics	Feedstock	Bauxite & alumina (aluminum chemicals) Celestite Limestone Nitrates Potash (potassium chemicals) Salt (sodium chemicals)
Dyes	Feedstock	Bauxite & alumina (alum) Borates Chromite Iodine Iron oxides Manganese Soda ash Sodium sulfate Sulfur
Fire retardants/wood preservatives	Feedstock	Bauxite & alumina (alumina trihydrate) Antimony oxide Asbestos Borates Bromine Chromite Diatomite Magnesite & magnesia Perlite Phosphates Pumice Vermiculite
Catalysts	Feedstock	Clays (kaolin, attapulgite) Iodine Lithium Pyrophyllite Rare earths Titanium minerals

		Pyrophyllite Rare earths Titanium minerals Zeolites, Zircon
Cleansers & detergents	Feedstock	Borates Phosphates Silica (sodium silicate) Soda ash Sodium sulfate Zeolites
HUMAN CONSUMPTION		
END USER INDUSTRY	**PRODUCT/ FUNCTION**	**MINERALS**
Pharmaceuticals & drugs	Excipient	Clays (attapulgite, bentonite, kaolin, sepiolite) Dolomite Gypsum Iron oxide Limestone (calcium carbonate) Mica Talc Titanium minerals (TiO2)
	Active minerals	Barite Bauxite & alumina (aluminum salts) Borates Bromine Iodine Limestone (calcium carbonate) Magnesite & magnesia Manganese Phosphates Salt Soda ash Sodium sulfate Sulfur
Cosmetics	Raw materials	Borates Bromine Clays (bentonite, kaolin) Gypsum Limestone (calcium carbonate) Magnesite & magnesia Mica Silica (flour, precipitated) Talc Titanium minerals (TiO2)
Food	Filler/pigments	Clays (bentonite and kaolin) Gypsum Limestone (calcium carbonate) Magnesite & magnesia Sulfur Talc Titanium minerals Zeolites
	Processing & refining	Clays (activated bentonite) Diatomite Fluorspar Perlite Nitrates Phosphates Potash Salt
FERTILIZER & AGRICULTURAL		
END USER INDUSTRY	**PRODUCT/ FUNCTION**	**MINERALS**
Fertilizer	Primary nutrients	Phosphates Potash Nitrates
	Secondary/ micronutrients	Borates Bromine Dolomite Gypsum Limestone Magnesite Manganese Salt Sodium sulfate Sulfur
Fertilizers, herbicides, and insecticides	Carriers	Clays (attapulgite, bentonite, kaolin, sepiolite) Diatomite Pyrophyllite Talc Zeolites
Soil amendments	Additives	Clays (bentonite/kaolin) Diatomite Gypsum Perlite Vermiculite Zeolites
Animal feed	Nutritional minerals	Dolomite Gypsum Iodine Iron oxide Limestone Magnesite Manganese Phosphates Salt Sulfur
	Carrier/digestive enhancer	Clays (bentonite, sepiolite) Perlite Talc Vermiculite Zeolites
GLASS & CERAMICS		

END USER INDUSTRY	PRODUCT/ FUNCTION	MINERALS
Glass	Batch raw materials	Borates Kaolin Feldspar/Aplite Limestone Nepheline syenite Silica/quartz Soda ash Sodium sulfate
Ceramic	Batch raw materials	Kaolin Feldspar/Aplite Limestone (calcium carbonate) Nepheline syenite Pyrophyllite Silica/quartz Soda ash Sodium sulfate Talc Wollastonite
Specialty additives including frits, glazes, enamels	Additives	Antimony oxide Barite Bauxite & alumina Beryllium Borates Celestite Dolomite Fluorspar Iron oxide Lithium minerals Magnesite Manganese Potash Rare earths Titanium minerals Zircon
Aerospace, optical glass & electronics	Raw materials	Bauxite & alumina Beryllium Borates Celestite Diamonds Graphite Rare earths Silica/Quartz Titanium minerals (rutile) Zircon
FILLERS, EXTENDERS, PIGMENTS		
END USER INDUSTRY	PRODUCT/ FUNCTION	MINERALS
Paper	Process chemicals	Bauxite & alumina (alum) Soda ash Sodium sulfate Sulfur
	Functional fillers	Barite Clays (kaolin, bentonite) Diatomite Gypsum Limestone (calcium carbonate) Silica/quartz Talc Zeolites
	Pigments	Titanium minerals (TiO_2)
Plastics	Functional fillers	Barite Bauxite & alumina (alumina trihydrate) Clays (kaolin) Diatomite Gypsum Feldspar Limestone (calcium carbonate) Mica Nepheline syenite Silica/quartz Talc Zeolites
	Pigments	Iron oxide Titanium minerals (TiO_2)
Paint, putty, caulk	Functional fillers	Barite Bauxite & alumina (alumina trihydrate) Clays (kaolin bentonite) Diatomite Gypsum Feldspar Limestone (calcium carbonate) Mica Nepheline syenite Pyrophyllite Silica/quartz Talc Zeolites
	Pigments	Iron oxide Titanium minerals (TiO_2)
Sealants & adhesives	Cement	Silica/quartz (sodium silicate) Sulfur Gypsum Limestone (calcium carbonate) Magnesite & magnesia
	Functional fillers (a.k.a. pigment)	Antimony oxide Asbestos Barite Bauxite & alumina (aluminum trihydrate) Clays (kaolin, bentonite) Diatomite Dolomite Limestone (calcium carbonate) Mica Pyrophyllite Silica/quartz (flour, precipitated, fumed) Slate

		Silica/quartz (flour, precipitated, fumed) Slate (powder) Talc Vermiculite Wollastonite
	Pigment	Titanium minerals (TiO_2)
ENVIRONMENTAL, WATER TREATMENT, FILTRATION		
END USER INDUSTRY	**PRODUCT/ FUNCTION**	**MINERALS**
Waste & effluent treatment	Chemical additives	Bauxite & alumina (aluminum chemicals) Bentonite Dolomite Graphite (activated charcoal) Gypsum Iodine Limestone & lime Magnesite & magnesia Manganese Soda ash Sodium sulfate Sulfur Zeolites
	Filter media	Asbestos Diatomite Garnet Iron oxide (magnetite) Perlite Pumice Silica sand Titanium minerals (ilmenite)
	FGD	Dolomite Limestone & lime Magnesite & magnesia Soda ash Socium sulfate Zeolites
Absorbents	Cat litter	Clays (attapulgite, bentonite, sepiolite) Diatomite (Moler) Gypsum
	Other	Clays (attapulgite, bentonite, kaolin, sepiolite) Diatomite (Moler) Gypsum Pyrophyllite Talc Zeolites
ENERGY		
END USER INDUSTRY	**PRODUCT/ FUNCTION**	**MINERALS**
Oil and gas	Drilling muds	Asbestos Barite Bauxite & alumina Bromine Clays (attapulgite, bentonite, hectorite, sepiolite) Diamonds Diatomite Garnet Graphite Gypsum Limestone & lime Magnesite & magnesia Mica Salt Soda ash Titanium minerals (ilmenite) Vermiculite
	Refining & additives	Bauxite & alumina Bromine Clays (attapulgite) Diatomite Graphite Iodine Lithium minerals Pyrophyllite Rare earths Sulfur Talc Titanium minerals Zeolites
Batteries		Antimony oxide Graphite Lithium Manganese Rare earths Salt (chloralkalis) Sulfur
Nuclear		Graphite Rare earths Titanium minerals Zeolites Zircon

HOME | CONSULTING | ARTICLES | PUBLICATIONS | MINERALS | LINKS | CONTACT

Peter W. Harben Inc.
5251 Eagle Pass Road • Las Cruces, NM 88011, USA
Tel: +1 575 521 3301 • Cell: +1 575 496 2996 • Fax: +1 575 522 5389
E-mail: harbenp@peterharben.com • http://www.peterharben.com

Magnesite

From Wikipedia, the free encyclopedia

Magnesite is magnesium carbonate, $MgCO_3$. Iron (as Fe^{2+}) substitutes for magnesium (Mg) with a complete solution series with siderite, $FeCO_3$. Calcium, manganese, cobalt, and nickel may also occur in small amounts. Dolomite, $(Mg,Ca)CO_3$, is almost indistinguishable from magnesite.

Contents [hide]

Occurrence [edit]

Magnesite occurs as veins in and an alteration product of ultramafic rocks, serpentinite and other magnesium rich rock types in both contact and regional metamorphic terranes. These magnesites often are cryptocrystalline and contain silica as opal or chert.

Magnesite is also present within the regolith above ultramafic rocks as a secondary carbonate within soil and subsoil, where it is deposited as a consequence of dissolution of magnesium-bearing minerals by carbon dioxide within groundwaters.

Formation [edit]

Magnesite can be formed via talc carbonate metasomatism of peridotite and other ultrabasic rocks. Magnesite is formed via carbonation of olivine in the presence of water and carbon dioxide, and is favored at moderate temperatures and pressures typical of greenschist facies.

Magnesite can also be formed via the carbonation of magnesian serpentine (lizardite) via the following reaction:

Serpentine + carbon dioxide → Talc + magnesite + Water

$$2Mg_3Si_2C_5(OH)_4 + 3CO_2 \rightarrow Mg_3Si_4O_{10}(OH)_2 + 3MgCO_3 + H_2O$$

Forsterite magnesia-rich olivine compositions favor production of magnesite from peridotite.

Magnesite

General	
Category	Carbonate mineral
Chemical formula	$MgCO_3$
Identification	
Color	Colorless, white, pale yellow, pale brown, faintly pink, lilac-rose
Crystal habit	Usually massive, rarely as rhombohedrons or hexagonal prisms
Crystal system	Trigonal - Hexagonal Scalenohedral H-M Symbol $\bar{3}2/m$ Space Group: $R\bar{3}c$
Cleavage	$[10\bar{1}1]$ perfect
Fracture	Conchoidal
Tenacity	Brittle
Mohs scale hardness	3.5 - 4.5

- Deutsch
- Español
- Esperanto
- Français
- हिन्दी
- Italiano
- עברית
- Magyar
- Nederlands
- 日本語
- Polski
- Português
- Română
- Русский
- Slovenčina
- Suomi
- Türkçe
- Українська

Forsterite magnesia-rich olivine compositions favor production of magnesite from peridotite. Fayalitic (iron-rich) olivine favors production of magnetite-magnesite-silica compositions.

Magnesite

Magnesite can also be formed from metasomatism in skarn deposits, in dolomitic limestones, associated with wollastonite, periclase, and talc.

Magnesite is also found in a number of Precambrian carbonate hosted sediments, and is thought to have formed as an evaporite.

Hardness	
Luster	Vitreous
Streak	white
Diaphaneity	Transparent to translucent
Specific gravity	3.0 - 3.2
Optical properties	Uniaxial (-)
Refractive index	n_ω=1.508 - 1.510 n_ϵ=1.700
Fusibility	infusible
Solubility	Effervesces in hot HCl
Other characteristics	May exhibit pale green to pale blue fluorescence and phosphorescence under UV; triboluminescent
References	[1][2][3][4]

Uses [edit]

Magnesite can be used as a slag former in steelmaking furnaces, in conjunction with lime, in order to protect the magnesium oxide lining. It can also be used as a catalyst and filler in the production of synthetic rubber and in the preparation of magnesium chemicals and fertilizers.

Similar to the production of lime, magnesite can be burned in the presence of charcoal to produce MgO, otherwise known as periclase. Such periclase is an important product in refractory materials.

Magnesite can also be used as a binder in flooring material.

In fire assay, magnesite cupels can be used for cupellation as the magnesite cupel will resist the high temperatures involved.

References [edit]

1. ^ http://ruff.geo.arizona.edu/doclib/hom/magnesite.pdf Handbook of Mineralogy
2. ^ http://www.mindat.org/min-2482.html Mindat.org
3. ^ http://webmineral.com/data/Magnesite.shtml Webmineral data
4. ^ Klein, Cornelis and Cornelius S. Hurlbut, Jr., *Manual of Mineralogy*, Wiley, 20th ed., p. 332 ISBN 0-471-80580-7

- Smithsonian Rock and Gem ISBN 0-7566-0962-3

Categories: Magnesium minerals | Carbonate minerals | Calcite group

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	3/30/2010 9:12:31 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

IMPORTANT NOTICE REGARDING YOUR TRADEMARK APPLICATION

Your trademark application (Serial No. 77873477) has been reviewed. The examining attorney assigned by the United States Patent and Trademark Office ("USPTO") has written a letter (an "Office action") on 3/30/2010 to which you must respond (*unless the Office letter specifically states that no response is required*). Please follow these steps:

1. Read the Office letter by clicking on this **link** **http://tmportal.uspto.gov/external/portal/tow?DDA=Y&serial_number=77873477&doc_type=OOA&mail_date=20100330** **OR** go to **http://tmportal.uspto.gov/external/portal/tow** and enter your serial number to access the Office letter. If you have difficulty accessing the Office letter, contact **TDR@uspto.gov**.

PLEASE NOTE: The Office letter may not be immediately available but will be viewable within 24 hours of this e-mail notification.

2. Contact the examining attorney who reviewed your application if you have any questions about the content of the Office letter (contact information appears at the end thereof).

3. Respond within 6 months, calculated from **3/30/2010** (*or sooner if specified in the Office letter*), using the Trademark Electronic Application System (TEAS) **Response to Office Action form**. If you have difficulty using TEAS, contact **TEAS@uspto.gov**.

ALERT:

Failure to file any required response by the applicable deadline will result in the ABANDONMENT (loss) of your application.

Do NOT hit "Reply" to this e-mail notification, or otherwise attempt to e-mail your response, as the USPTO does NOT accept e-mailed responses.

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	11/5/2010 10:06:37 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	Attachment - 1 Attachment - 2 Attachment - 3 Attachment - 4 Attachment - 5 Attachment - 6 Attachment - 7 Attachment - 8 Attachment - 9 Attachment - 10 Attachment - 11 Attachment - 12 Attachment - 13 Attachment - 14 Attachment - 15 Attachment - 16 Attachment - 17 Attachment - 18 Attachment - 19 Attachment - 20 Attachment - 21 Attachment - 22 Attachment - 23 Attachment - 24 Attachment - 25

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

APPLICATION SERIAL NO. 77873477

MARK: MAGNESITA

77873477

CLICK HERE TO RESPOND TO THIS LETTER:
http://www.uspto.gov/teas/eTEASpageD.htm

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

APPLICANT: MAGNESITA REFRACTORIES COMPANY

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6002/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

OFFICE ACTION

STRICT DEADLINE TO RESPOND TO THIS LETTER

TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER **WITHIN 6 MONTHS** OF THE ISSUE/MAILING DATE BELOW.

ISSUE/MAILING DATE: **11/5/2010**

This letter responds to the applicant's correspondence filed on September 27, 2010.

Descriptiveness Refusal Continued-All Classes

In the first office the examining attorney refused registration on the Principle Register because the proposed mark was considered merely descriptive when used in connection with the applicant's goods. The English translation of MAGNESITIA is magnesia or magnesite. The applicant's goods are refractory products, computerized online ordering services featuring refractory products and for providing information about maintenance and repair of refractory products.

As was discussed in the first office action, magnesite is a mineral used in manufacturing refractory bricks. The applicant's goods are refractory bricks and mixes for patching lining or reparing high temperature apparatus. The excerpts attached from the Internet discuss that magnesite is used in high-temperature applications. The applicant's services sell high temperature products made from magnesite and the applicant is also providing information on how to repair refractory apparatus, presumably using goods made with magnesite. The term describes the subject matter of the services as well as the main ingredient of the goods.

The determination of whether a mark is merely descriptive is considered in relation to the identified goods and/or services, not in the abstract. *In re Abcor Dev. Corp.*, 588 F.2d 811, 814, 200 USPQ 215, 218 (C.C.P.A. 1978); TMEP §1209.01(b); *see, e.g.*, *In re Polo Int'l Inc.* , 51 USPQ2d 1061 (TTAB 1999) (finding DOC in DOC-CONTROL would be understood to refer to the "documents" managed by applicant's software, not "doctor" as shown in dictionary definition); *In re Digital Research Inc.*, 4 USPQ2d 1242 (TTAB 1987) (finding CONCURRENT PC-DOS merely descriptive of "computer programs recorded on disk" where relevant trade used the denomination "concurrent" as a descriptor of a particular type of operating system). "Whether consumers could guess what the product is from consideration of the mark alone is not the test." *In re Am. Greetings Corp.*, 226 USPQ 365, 366 (TTAB 1985).

The applicant should note that "A mark may be merely descriptive even if it does not describe the 'full scope and extent' of the applicant's goods or services." *In re Oppedahl & Larson LLP*, 373 F.3d 1171, 1173, 71 USPQ2d 1370, 1371 (Fed. Cir. 2004) (citing *In re Dial-A-Mattress Operating Corp.*, 240 F.3d 1341, 1346, 57 USPQ2d 1807, 1812 (Fed. Cir. 2001)); TMEP §1209.01(b). It is enough if the term describes only one significant function, attribute or property. *In re Oppedahl*, 373 F.3d at 1173, 71 USPQ2d at 1371; TMEP §1209.01(b).

Furthermore, the foreign equivalent of a merely descriptive English word or term is also merely descriptive. *In re N. Paper Mills*, 64 F.2d 998, 998, 17 USPQ 492, 493 (C.C.P.A. 1933). Under the doctrine of foreign equivalents, marks with foreign words from modern languages are translated into English to determine descriptiveness. TMEP §1209.03(g); *see Palm Bay Imps., Inc. v. Veuve Clicquot Ponsardin Maison Fondee en 1772*, 396 F.3d 1369, 1377, 73 USPQ2d 1689, 1696 (Fed. Cir. 2005).

The doctrine is applied when it is likely that an ordinary American purchaser would "stop and translate" the foreign term into its English equivalent. *Palm Bay*, 396 F.3d at 1377, 73 USPQ2d at 1696; *cf.* TMEP §1207.01(b)(vi)(A). The ordinary American purchaser refers to "all American purchasers, including those proficient in a non-English language who would ordinarily be expected to translate words into English." *In re Spirits Int'l, N.V.* , 563 F.3d 1347, 1352, 90 USPQ2d 1489, 1492 (Fed. Cir. 2009); *see In re Thomas*, 79 USPQ2d 1021, 1024 (TTAB 2006) (citing J. Thomas McCarthy, *McCarthy on Trademarks and Unfair Competition* §23:26 (4th ed. 2006), which states "[t]he test is whether, to those American buyers familiar with the foreign language, the word would denote its English equivalent.").

Generally, the doctrine is applied when the English translation is a literal and exact translation of the foreign wording. *See In re Oriental Daily News, Inc.*, 230 USPQ 637, 638 (TTAB 1986) (holding Chinese characters that mean ORIENTAL DAILY NEWS merely descriptive of newspapers); *In re Zazzara*, 156 USPQ 348, 348 (TTAB 1967) (holding PIZZA FRITTE, the Italian equivalent of "fried buns," incapable for fried dough); TMEP §1209.03(g).

The term MAGNESITA translates to magnesia or magnesite from Spanish or Portugese. Spanish is the second most widely spoken language in the United States.

For the above reasons, the refusal under Section 2(e)(1) is maintained and continued.

The examining attorney overlooked the following issue. The examining attorney regrets any inconvenience to the applicant.

Recitation of Services

The identification of services is indefinite and must be clarified because the current wording is considered indefinite. "Stores" are not

considered a service in and of themselves *See* TMEP §1402.01. Applicant may adopt the following identification, if accurate:

Computerized online ordering services featuring refractory products by means of the Internet in International Class 35.

For assistance with identifying and classifying goods and/or services in trademark applications, please see the online searchable *Manual of Acceptable Identifications of Goods and Services* at http://tess2.uspto.gov/netahtml/tidm.html. *See* TMEP §1402.04.

Identifications of services can be amended only to clarify or limit the services; adding to or broadening the scope of the services is not permitted. 37 C.F.R. §2.71(a); *see* TMEP §§1402.06 *et seq.*, 1402.07. Therefore, applicant may not amend the identification to include services that are not within the scope of the services set forth in the present identification.

If the applicant needs assistance in responding to this office action, please contact the examining attorney.

/Dawn Feldman Lehker/
Trademark Examining Attorney
United States Patent and Trademark Office
(571) 272-9381
F (571) 273-9111

TO RESPOND TO THIS LETTER: Use the Trademark Electronic Application System (TEAS) response form at http://teasroa.uspto.gov/roa/. Please wait 48-72 hours from the issue/mailing date before using TEAS, to allow for necessary system updates of the application. For *technical* assistance with online forms, e-mail TEAS@uspto.gov.

WHO MUST SIGN THE RESPONSE: It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

PERIODICALLY CHECK THE STATUS OF THE APPLICATION: To ensure that applicant does not miss crucial deadlines or official notices, check the status of the application every three to four months using Trademark Applications and Registrations Retrieval (TARR) at http://tarr.uspto.gov/. Please keep a copy of the complete TARR screen. If TARR shows no change for more than six months, call 1-800-786-9199. For more information on checking status, see http://www.uspto.gov/trademarks/process/status/.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/teas/eTEASpageE.htm.

http://dictionary.reference.com/browse/magnesite 11/05/2010 09:20:42 AM

Dictionary | Thesaurus | Flashcards beta | Quotes | Encyclopedia | Translator

Dictionary.com

magnesite Search

Did you know: If you **abscond**, is that a **good or bad** thing?

Related Searches

- What is magnesite use...
- Where does magnesite ...
- Magnesite flooring
- Magnesite uses
- Magnesite mineral
- Magnesite rock
- Magnesite floor coati...
- Magnesite beads
- Wild horse magnesite ...
- Minerals
- Dolomite
- Tungsten

Nearby Words

- magnesial
- magnesian
- magnesic
- **magnesite**
- magnesium

magnesite - 3 dictionary results

mag·ne·site

[mag-*nuh*-sahyt] [?] Show IPA

–noun
a mineral, magnesium carbonate, $MgCO_3$, having a characteristic conchoidal fracture and usually occurring in white masses.

Today's Word Picks on Dictionary.com

- elucdate
- hauteur
- plashy
- vagary

conchoidal fracture and usually occurring in white masses.

Origin:
1805–15; magnes(ia) + -ite[1]; cf. F *magnésite*

Dictionary.com Unabridged
Based on the Random House Dictionary, © Random House, Inc. 2010.
Cite This Source | Link To **magnesite**

World English Dictionary

magnesite (ˈmæɡnɪˌsaɪt) ?

— *n*

a white, colourless, or lightly tinted mineral consisting of naturally occurring magnesium carbonate in hexagonal crystalline form: a source of magnesium and also used in the manufacture of refractory bricks. Formula: $MgCO_3$

[C19: from magnesium + -ite [1]]

Encyclopedia

magnesite

the mineral magnesium carbonate (MgCO3), a member of the calcite group of carbonate minerals that is a principal source of magnesium. The mineral has formed as an alteration product from magnesium-rich rocks or through the action of magnesium-containing solutions upon calcite. Notable deposits are those at Radenthein, Austria; the Liaotung Peninsula, Liaoning Province, China; and Clark County, Nev., U.S. Iron is usually present, and a complete chemical substitution series exists between magnesite and siderite in which iron replaces magnesium. Magnesite is used as a refractory material, a catalyst and filler in the production of synthetic rubber, and a material in the preparation of magnesium chemicals and fertilizers.

Australian Government
Geoscience Australia

australian atlas of
minerals resources, mines
& processing centres

Magnesium Fact Sheet

Introduction

Magnesium (Mg) is the lightest of all metals, being about two-thirds lighter than aluminium. Magnesium is non-toxic, non-magnetic, has high-impact strength and is resistant to denting.

Magnesium is too reactive to occur in nature as an element, but its compounds are common. At 2.5%, magnesium is the eighth most abundant element in the earth's crust. It is the third most abundant element in sea water which averages about 0.13% magnesium by weight.

Magnesite ($MgCO_3$) is an ore for magnesium production and the source of a range of industrial minerals. When pure, magnesite contains 47.8% magnesium oxide and 52.2% carbon dioxide. Natural magnesite almost always contains some calcium carbonate as the mineral calcite and iron carbonate as the mineral siderite. Magnesium also occurs in dolomite, which has the formula $CaMg(CO_3)^2$ and in which $MgCO_3$ constitutes 45.65% (equivalent to 21.7% MgO) and $CaCO_3$ 54.35%.

Magnesite colour varies from white when pure to yellowish or grey white and brown. Hardness is 3.5 to 4.5 and the specific gravity varies from 3 to 3.2. A vitreous lustre and very slow reaction with cold acids distinguishes magnesite from other carbonates.

Magnesite, dolomite, sea water and lake brines are used as sources of magnesium metal with the most common source being lake brines and sea water.

Occurence

Magnesite occurs in two physical forms: Cryptocrystalline or amorphous magnesite and Macrocrystalline magnesite. It occurs in five different ways: a replacement mineral in carbonate rocks; an alteration product in ultramafic rocks (igneous rocks composed mainly of one or more dark coloured ferromagnesian minerals); a vein-filling material; a sedimentary rock; as nodules formed in a lacustrine (lake) environment.

Replacement-type magnesite deposits involve magnesium-rich fluids entering limestone via openings to produce both magnesite and dolomite.

The alteration-type deposits are formed by the action of carbon dioxide-rich waters on magnesium-rich serpentinite a rock which has been formed from the alteration of magnesium and iron silicate minerals. The resulting magnesite may be very pure.

Sedimentary deposits usually occur as thin layers of variable magnesite quality. Lacustrine magnesite deposits consist of nodules of cryptocrystalline magnesite formed in a lake environment. Both vein filling and sedimentary magnesite occurrences are rarely mined on a large scale.

Australian Resources and Deposits

Australia's economic demonstrated resources (i.e. those that could be economically extracted at current prices with existing technology) are 202 million tonnes of magnesite.

The estimated world economic resources of magnesite are about 8600 million tonnes of MgCO3 with China having the most followed by the Russia and North Korea.

In the Kunwarara deposit, 60km northwest of Rockhampton in Queensland, low iron nodules of cryptocrystalline magnesite cover an area of about 63 square km which is entirely overlain by black clay up to 12 metres thick. The deposit is thought to have formed by the deposition in lakes of magnesium bicarbonate derived from the alteration of serpentinite rock. Evaporation caused hydrated magnesium carbonate to precipitate. Deposition of mud over the magnesite resulted in further evaporation and the formation of hard nodules of dehydrated magnesite. Mining of this deposit commenced in 1989. Similar magnesite deposits occur at Yaamba and Triple Four, also in the Rockhampton area. Magnesite occurs near Gunnawarra southwest of Cairns, and in southern Queensland near Kilkivan and at Upper Widgee.

In New South Wales, magnesite at Thuddungra, northwest of Young, occurs as veins and nodules formed by the alteration of mafic rocks by magnesium-rich fluids. The magnesite ore contains 95 to 99% $MgCO_3$ and varies in thickness from 2 to 10 metres. The Thuddungra mine has been in operation since 1935.

A former magnesite mine near Fifield about 30 km northwest of Condobolin consists of nodules of massive magnesite nodules occuring as pockets or veins in decomposed ultramafic rock. Other occurrences of magnesite in New South Wales are at Lake Cargellico, Cobar, Nyngan, between Attunga and Warialda.

In Tasmania, fine-grained, massive magnesite, formed by the replacement of limestone and dolomite, occurs at Arthur River and in the Lyons River area 50km south west of Burnie. The magnesite ore contains more than 40% magnesium oxide. Another deposit of magnesite also formed from the alteration of limestone is situated south of Arthur River at Main Creek.

In South Australia, beds of magnesite ranging from 5 centimetres to 9 metres in thickness occur at Witchelina, 80km north west of Leigh Creek, Copley, and Myrtle Springs. Small occurrences are at Balcanoona and near Robertstown.

Creek, Copley, and Myrtle Springs. Small occurrences are at Balcanoona and near Robertstown.

In Western Australia, hard magnesite nodules in dark clayey material crop out 30km east of Ravensthorpe. Magnesite also occurs in the Kalgoorlie region.

Magnesite formed by the replacement of dolomite occurs at Huandot near Woodcutters in the Northern Territory. The deposit has an average width of 40 metres and an average overburden depth of 11 metres.

Mining and Processing

In Australia, all magnesite deposits are mined by open-cut methods. During mining the strip ratio, that is, the quantity of magnesite ore to waste material, may be high. An advantage of the Kunwarara deposit is that the strip ration is low because the overburden averages only 4 metres thick. A second advantage is that only 5 to 10 tonnes of ore has to be mined and beneficiated to produce one tonne of high grade magnesite. The processing of magnesite ore begins with crushing, screening and washing.

When crude magnesite is heated to between 700°-1000°C, carbon dioxide is driven off to produce caustic-calcined magnesia (caustic magnesia). Caustic magnesia is able to absorb liquids and to absorb heavy metals and ions from liquid streams making it useful in water treatment.

When calcined magnesia is heated to between 1530°-2300°C, the product produced is non-reactive and exhibits exceptional stability and strength at high temperatures. This product known as 'dead-burned' or 'sintered' magnesia is mainly used mainly as a refractory material because of its inertness and high melting point.

When calcined or dead-burned magnesia is heated in excess of 2800°C in an electric arc furnace, electrofused magnesia is produced. It has higher strength, resistance to abrasion and chemical stability than dead-burned magnesia. It is used in the manufacture of premium grade refractory bricks used in the high wear hot spots of Basic Oxygen Furnaces, electric arc or similar furnaces where temperatures can approach 950°C.

Magnesia is produced also from the processing of sea water and magnesium-rich brines but it is a very complex process using much larger amounts of energy than the process of heating of natural magnesite.

Magnesium metal can be produced by one of three processes. The electrolytic process uses magnesium chloride produced from either magnesite, seawater or brines rich in magnesium chloride. Magnesite is favoured as the source of magnesium because chlorine is recycled within the process rather than being disposed of as a waste or a by-product. The silicothermic process mixes calcined dolomite or magnesite with ferrosilicon (a combination of iron and silicon metal) to produce a magnesium vapour which is then condensed in cooling vessels to form magnesium metal. Both processes are energy intensive and require low-cost electricity to be competitive.

The Australian Magnesium Process developed in Australia involves dissolving pure magnesite ore in hydrochloric acid to produce magnesium chloride. The magnesium chloride is then purified, dehydrated to a dry feed and electrolysed in an Alcan cell. The molten magnesium is tapped from the cell and cast into ingots. The chlorine gas released is recycled and combined with hydrogen, from natural gas to produce hydrochloric acid for use in the process.

Production

In 1998, Queensland Metals Corporation Limited mined 2.44 million tonnes to produce 345,000 tonnes of beneficiated magnesite which, in turn was used to produce 102,000 tonnes of dead-burned magnesia, 27,300 tonnes of electrofused magnesia and 17,500 tonnes of

calcined magnesia. A small quantity of calcined magnesium oxide and magnesium carbonate was produced from stockpiled magnesite ore from Thuddungra.

Currently, Australia does not produce magnesium metal. However in 1998, Australian Magnesium Corporation commenced operating a 1,500 tonne per year demonstration plant at Gladstone in Queensland. It plans to establish a commercial magnesium metal plant at Gladstone using the Australian Magnesium Process.

Other companies including Crest Resources Australia NL, Pima Mining NL, and Golden Triangle Resources NL are investigating the possibility of building magnesium metal plants based on magnesite resources in located mainly in Tasmania and South Australia.

Uses

There are two main uses for magnesite. The first is as feedstock in the production of dead-burned magnesia and for refractory brick use in lining furnaces in the steel industry and non-ferrous metal processing units and cement kilns. The second use is for processing to caustic calcined magnesia which is used principally as a food supplement in agribusiness and in fertilisers as well for fillers in paints, paper and plastics. Raw magnesite is used for surface coatings, landscaping, ceramics and as a fire retardant.

The largest single use for magnesium metal is in aluminium alloying, accounting for about 50% of the total magnesium metal consumption. The addition of magnesium to aluminium produces high-strength, corrosion-resistant alloys. About 20% is used in castings and wrought products including machinery, tools and other consumer products such as mag wheels for cars.

Suggestions for Further Reading

- Anon, 1993, White magic: The science of magnesium oxide, The Helix, No 29, December 1993, pp 6-11.
- Milburn,D. and Wilcock,S. 1998, 'Kunwarara Magnesite Deposit', in Geology of Australian and Papua New Guinean Mineral Deposits, eds D.A.Berkman & D.H.MacKenzie, The Australasian Institute of Mining and Metallurgy, Melbourne, pp 815-818.
- Australia's Identified Mineral Resources 2007, Geoscience Australia, Canberra.
- Diemer,V.A. 1998, 'Thuddungra magnesite deposits', in Geology of Australian and Papua New Guinean Mineral Deposits, eds D.A.Berkman & D.H.MacKenzie, The Australasian Institute of Mining and Metallurgy, Melbourne, pp 655-660.
- Harben, P.W. & Bates, R.L. 1990, 'Magnesite & Magnesia', Industrial Minerals Geology and World Deposits, Metal Bulletin Plc, London, pp 153 160.
- Hill, B.F. 1998, 'Magnesite and magnesia production by Queensland Magnesia production by Queensland Magnesia Operations Pty Ltd at Kunwarara and Rockhampton, Qld', in Australasian Mining and Metallurgy, vol. 2, eds J.T. Woodcock & J.K.Hamilton, The Australasian Institute of Mining and Metallurgy, Melbourne, pp 1388-1393.
- Dickson, T.W. 1990, 'Arthur River and Lyons River Magnesite Deposits', in Geology of the Mineral Deposits of Australia and Papua New Guinea, ed F.E. Hughes, The Australasian Institute of Mining and Metallurgy, Melbourne, pp 1181-1183.
- McCallum, W.S. 1990, 'Magnesite Deposits in South Australia', in Geology of the Mineral Deposits of Australia and Papua New Guinea, ed. F.E. Hughes, The Australasian Institute of Mining and Metallurgy, Melbourne, pp 1151-1154.
- Queensland Metals Corporation Limited 1993, 'Overview of Magnesite, Magnesia and Magnesium', 11th Annual Report, pp 63-90.

http://spanish.about.com/b/2003/10/09/new-census-report-highlights-use-of-spanish-in-united-states.htm
11/05/2010 09:34:50 AM

Home › Education › Spanish Language

About.com: Spanish Language

spanish language in the united states SEARCH

Spanish Language | Start Learning | Continue Learning | Culture

Share | Print

Gerald's Spanish Language Blog

By **Gerald Erichsen**, Spanish Language Guide

My Bio | My Blog | My Forum | RSS

Free Spanish Language Newsletter!

Enter email address SIGN UP

Discuss in my Forum

New Census report highlights use of Spanish in United States

Thursday October 9, 2003

A new analysis of information gathered during the 2000 U.S. Census shows that nearly one out of five Americans speak a language other than English at home — and the vast majority of them speak Spanish. But that doesn't mean that English is on its way out, at least in the country as a whole; about half of those who speak Spanish at home say they also speak English very well, and many of the others speak English but less than fluently. In total, 92 percent of Americans say they speak English very well.

According to the analysis, some 47 million Americans speak a language other than English at home. That is an increase of 15 million people since 1990. Spanish speakers increased from 17.3 million in 1990 to 28.1 million in 2000, a 62 percent rise.

The report indicates that while Spanish speakers are spread throughout the country, they are concentrated in California, Texas and Florida. The city with the highest concentration of Spanish speakers is Hiahleah, Fla., where 92 percent of the residents speak Spanish at home. Close behind is Laredo, Texas, with 91 percent.

The major city with the highest proportion of Spanish speakers is Miami, where two-thirds (67 percent) speak Spanish at home; a full three-quarters (75 percent) of Miami residents speak a language other than English at home.

Other highlights of the report:

Related Blogs

Bitácoros de Afrael Ortiz
Bruja's Blog
Libro de notas

http://spanish.about.com/b/2003/10/09/new-census-report-highlights-use-of-spanish-in-united-states.htm
11/05/2010 09:34:50 AM

- The West was home to more than one-third (37 percent) of all those who spoke a language other than English at home, the highest proportion of any region. California led the states (39 percent), followed by New Mexico (37 percent) and Texas (31 percent).
- The number of people who spoke a non-English language at home at least doubled in six states between 1990 and 2000, with the largest percentage increase in Nevada (193 percent). Georgia's residents who spoke a non-English language at home increased by 164 percent, followed by North Carolina (151 percent).
- After English (215.4 million) and Spanish (28.1 million), Chinese (2 million) was the language most commonly spoken at home, eclipsing French, German and Italian over the 1990s.
- Of the 20 non-English languages spoken most widely at home, the largest proportional increase in the 1990s was Russian. Speakers of this language nearly tripled, from 242,000 to 706,000. The second largest increase was among French Creole speakers (including Haitian Creoles), whose numbers more than doubled, from 188,000 to 453,000.
- The West and South combined had about three times the number of Spanish speakers (21 million) as the Northeast and Midwest combined (7 million).
- More than 80 percent of the population spoke a non-English language in seven Texas counties — Maverick, Webb, Starr, Kenedy, Zavala, Presidio and Hidalgo.

Download the report...

Comments (0) | See All Posts | Share

‹ Prev Next ›

Comments

No comments yet. Leave a Comment

Related Articles

- Nearly 1-in-5 Americans Speak Foreign Language at Home
- How Many Words Does Spanish Have? - Size of the Spanish Vocabulary
- How Many Languages Are Spoken in Queens, NY?
- 10 Facts About the Spanish Language
- 10 Mistakes To Avoid While Learning Spanish

Libro de notas
Genteloca.com
Iberian Notes
Pequeños enigmas
Blog de Viajes

Discuss

Reader Reviews

Software for Learning Spanish

Read Reviews (11) | Add Your Review

Recent Blog Comments

- When To Shorten (Apocopate) Ciento
- Spanish vs. French
- ¡Truco o Trato!

http://spanish.about.com/b/2003/10/09/new-census-report-highlights-use-of-spanish-in-united-states.htm
11/05/2010 09:34:50 AM

Related Searches Census Report United States

Explore Spanish Language

Free Spanish Language Newsletter!
Enter email address SIGN UP

By Category
- Learn Spanish Grammar
- Spanish Pronunciation
- Written Spanish
- Spanish Language Schools
- Spanish-Language Culture
- Spanish Vocabulary
- In the News
- Spanish-Language Literature
- Entertainment in Spanish
- History of Spanish
- Spanish-Language Products
- Translation Resources
- Spanish for Travelers
- Tips for Learning Spanish
- Teaching Resources

Must Reads
- Lessons for Beginners
- Increasing Your Vocabulary
- Verb Tenses
- Online Quizzes
- Word of the Day

Most Popular
- Day of the Dead
- Spanish Alphabet
- Greetings
- Two Ways To Say 'I Love You'
- Ser or Estar

About.com Special Features

Overcome Test Anxiety
Five simple steps to help you remain calm and focused during your next exam. More >

10 Strange and Amazing Astronomy Facts
Don't get lost in space! Learn some intriguing facts about astronomy that are out of this world. More >

About.com: Spanish Language
Home > Education > Spanish Language

Most Popular | Latest Articles | RSS

Advertising Info | News & Events | Work at About | SiteMap | All Topics | Reprints | Help
Our Story | Write for About
User Agreement | Ethics Policy | Patent Info. | Privacy Policy

Spanish language in the United States

From Wikipedia, the free encyclopedia

Spanish is the second most-common language in the United States after English. There are more Spanish speakers in the U.S. than there are speakers of Chinese, French, Hawaiian, and the Native American languages combined. According to the 2009 American Community Survey conducted by the United States Census Bureau, Spanish is the primary language spoken at home by over 35.5 million people aged 5 or older.[1] There are 45 million Hispanics who speak Spanish as a first or second language [6] and there are 6 million Spanish students,[7] making it the world's second-largest Spanish-speaking community, only after Mexico and ahead of Spain, Colombia and Argentina.[8] Roughly half of all U.S. Spanish speakers also speak English "very well", based on the self-assessment Census question respondents.[9]

Spanish in the United States

Español en los EE. UU.

Pronunciation	[espa'ɲol]
Spoken in	United States
Total speakers	35,468,501 [1](United States only)
Ranking	2-4 (native speakers)[2][3][4][5]
Language family	Indo-European • Italic • Romance • Italo-Western • Gallo-Iberian • Ibero-Romance • West Iberian • Spanish • Spanish in the United States
Writing system	Latin (Spanish variant)
Language codes	
ISO 639-1	es
ISO 639-2	spa
ISO 639-3	spa
Linguasphere	

Spanish language spread in the United States.

Note: This page may contain IPA phonetic symbols in Unicode.

Contents [hide]

History [edit]

See also: Hispanic Heritage Sites (U.S. National Park Service)

Part of a series of articles on
Hispanic and Latino

Spanish was the language spoken by the first permanent European settlers in North America. It was brought to the territory of what is the contemporary U.S. in 1513 by Ponce de León. In 1565, the Spaniards, by way of Juan Ponce de Leon, founded St. Augustine, Florida, the oldest, continuously occupied European settlement in the continental U.S. The oldest city in all of the U.S. territory is San Juan, capital of Puerto Rico, where Juan Ponce De León was its first governor and from where he left towards Florida seeking the fountain of youth, gold and slaves.

Historically, the Spanish-speaking population increased because of territorial annexation of lands conquered earlier by the Spanish empire and by wars with Mexico and by land purchases, while modern factors continue increasing the size of this population.

Louisiana Purchase [edit]

In the late 18th and early 19th centuries, Spanish rule encompassed most of the contemporary U.S. territory, including the French colony of Louisiana that was under Spanish control from 1763 to 1800 and then part of the U.S. since 1803. When Louisiana was sold to the United States, its Spanish and French inhabitants became U.S. citizens, while retaining their native Spanish and French tongues.

Annexation of Texas and the Mexican-American War [edit]

From 1823, Texas was part of the United Mexican States as the state of Coahuila y Texas until the Texas Revolution of 1836. Per the 1850 U.S. census, fewer than 16,000 Texans were of Mexican descent, and nearly all were Spanish-speaking people who were outnumbered (six-to-one) by English-speaking settlers (both Anglo-Saxons and other Europeans).[citation needed]

Mexico lost almost half of its northern territory to the U.S. in the Mexican-American War (1846–1848): parts of contemporary Texas, and Colorado, Arizona, New Mexico, and Wyoming, California, Nevada, and Utah. Although the lost territory was sparsely populated, the thousands of Spanish-speaking Mexicans resultantly became U.S. citizens. The war-ending Treaty of Guadalupe Hidalgo (1848) does not explicitly address language rights.

Spanish-American War [edit]

In 1898, consequent to the Spanish-American War, the U.S. conquered Cuba and Puerto Rico as American territories. In 1902, Cuba became independent from the U.S., while Puerto Rico became a U.S. commonwealth. Spanish is Puerto Rico's first language, and its citizens hold statutory U.S. citizenship.

Modern migration [edit]

The influx of many Spanish-speaking immigrants to the U.S. has increased the number of Spanish-speakers in the country, resultantly they are majorities and large minorities in many political districts, especially in California, Arizona, New Mexico, and Texas, the U.S. states bordering Mexico.

Immigration to the United States of Spanish-speaking Cubans began because of Cuba's political instability upon achieving independence. The deposition of Fulgencio Batista's dictatorship and the ascension of Fidel Castro's communist government in 1959 increased Cuban immigration to the U.S., hence there are some one million Cubans in the United States, most settled in southern and central Florida, while other Cuban Americans live in the Northeastern U.S.; most are fluent in Spanish.

Hispanic and Latino Americans

Groups

Argentine Americans
Bolivian Americans
Chilean Americans
Colombian Americans
Costa Rican Americans
Cuban Americans
Dominican Americans
Ecuadorian Americans
Guatemalan Americans
Honduran Americans
Mexican Americans
Nicaraguan Americans
Panamanian Americans
Paraguayan Americans
Peruvian Americans
Puerto Ricans (stateside)
Salvadoran Americans
Spanish Americans
Uruguayan Americans
Venezuelan Americans

History

History of Hispanic and Latino Americans
History of Mexican-Americans

Religions

Christian Hispanics and Latinos · Catholicism · Hispanic and Latino Muslims · Santeria

Political movements

Hispanic and Latino American politics
Chicano Movement

Organizations

National Hispanic Institute
NALEO · RNHA
Congressional Hispanic Caucus
Congressional Hispanic Conference
LULAC · MALDEF · NALFO · SHPE
National Council of La Raza
Association of Hispanic Arts · MECbA · UFW

Culture

Likewise the migration of Spanish-speaking Nicaraguans also began as a result of political instability during the end of the 1970s and the 1980s. The uprising of the Sandinista revolution which topplec the Somoza regime in 1979 caused many Nicaraguans to migrate particularly from those opposing the Sandinistas. Throughout the 1980s with the Contra War which continued through the decade, and the economic collapse of the country many more Nicaraguans migrated to the United States amongst other countries. The states of the United States where most Nicaraguans migrated to include Florida, California and Texas.

Many Puerto Ricans have migrated to New York City, New York, increasing its Spanish-speaking population. Millions of Puerto Rican Americans living in the U.S. mainland are fluent in Spanish. In Hawaii, where Puerto Rican farm laborers and Mexican ranchers have settled since the late 19th century, 7.0 per cent of the islands' people are either Hispanic or Hispanophone or both.[citation needed]

Current status [edit]

Servicio de Ciudadanía e Inmigración de Estados Unidos

The Spanish-language logo of the U.S. Citizenship and Immigration Services

Main article: Languages of the United States

In total, there were 35,468,501 people in the United States who speak Spanish as their primary language at home, including 3.5 million in the territory of Puerto Rico, where Spanish is the primary language.[10] Over half of the country's Spanish speakers reside in California, Texas, and Florida alone.

Note: The following table uses data from the 2004 American Community Survey from the United States Census Bureau[11]

State/Territory	Spanish-speaking population	Percentage of state population
Puerto Rico	3,900,128	95.21%
New Mexico	823,352	43.27%
California	12,442,626	34.72%
Texas	7,781,211	34.63%
Arizona	1,608,698	28.03%
Nevada	445,622	19.27%
Florida	3,304,832	19.01%
New York	3,076,697	15.96%
New Jersey	1,134,033	13.89%
Illinois	1,516,560	12.70%
Colorado	545,112	12.35%
Rhode Islanc	100,227	9.96%
Utah	216,327	9.40%
Connecticut	308,863	9.35%
Oregon	293,840	8.47%

Hispanic culture
Literature • Studies • Music
Languages
English • Spanish in the United States
Spanish • Spanglish
Lists
Communities with Hispanic majority
Puerto Rico-related topics
Notable Hispanics
Related topics
Portals
Hispanic and Latino Portal

This box: view • talk • edit

http://en.wikipedia.org/wiki/Spanish_language_in_the_United_States 11/05/2010 09:38:00 AM

District of Columbia	45,023	8.24%
Idaho	103,686	7.66%
Washington	431,021	7.20%
Georgia	610,402	7.04%
Massachusetts	411,192	6.80%
Kansas	169,376	6.59%
Delaware	51,762	6.50%
North Carolira	532,553	6.45%
Nebraska	98,211	5.99%
Virginia	412,416	5.78%
Maryland	298,072	5.68%
Oklahoma	173,552	5.22%
Arkansas	116,396	4.45%
Indiana	254,219	4.32%
Wisconsin	217,550	4.18%
Wyoming	19,830	4.12%
Pennsylvania	436,254	3.72%
South Carolina	148,345	3.68%
Alaska	22,649	3.64%
Minnesota	171,042	3.55%
Iowa	97,876	3.51%
Michigan	292,996	3.10%
Tennessee	171,646	3.04%
Louisiana	106,872	2.68%
Alabama	107,806	2.50%
Missouri	129,329	2.37%
Ohio	230,467	2.15%
New Hampshire	26,607	2.14%
Kentucky	80,450	2.05%
South Dakota	14,403	1.98%
Mississippi	46,561	1.72%
Montana	13,458	1.51%
Hawaii	17,442	1.50%
North Dakota	8,853	1.48%

West Virginia	18,207	1.06%
Vermont	5,950	1.01%
Maine	12,576	1.00%

Although the United States has no official language, English is the most common. Most state and federal government agencies use English. Many states, such as California, require bilingual legislated notices and official documents, in Spanish and English, and other commonly used languages. In the U.S. Commonwealth of Puerto Rico, Spanish is the official and most commonly used language. Throughout the history of the Southwest U.S., the controversial issues of language as part of cultural rights and bilingual state government representation has caused socio-cultural friction between Anglophones and Hispanophones. Currently, Spanish is the most widely-taught second language in the U.S.[12]

California [edit]

California's first constitution recognized Spanish language rights:

> All laws, decrees, regulations, and provisions emanating from any of the three supreme powers of this State, which from their nature require publication, shall be published in English and Spanish.
> —California Constitution, 1849, Art. XI Sec. 21).

By 1870, English-speaking Americans were a majority in California; in 1879, the state promulgated a new constitution under which all official proceedings were to be conducted exclusively in English, a clause that remained in effect until 1966. In 1986, California voters added a new constitutional clause, by referendum, stating that:

> English is the official language of the State of California.
> —California Constitution, Art. 3, Sec. 6

However, Spanish remains widely spoken throughout the state, and many government forms, documents, and services are bilingual, in English and Spanish. And although all official proceedings are to be conducted in English:

> A person unable to understand English who is charged with a crime has a right to an interpreter throughout the proceedings.
> California Constitution, Art. 1, Sec. 4

Arizona [edit]

> This section **does not cite any references or sources.**
> Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed. *(May 2010)*

In Arizona, English is the official state language as of 2006. Historically, however, the state (like its southwestern neighbors) has had close linguistic and cultural ties with Mexico. The state outside the Gadsden Purchase of 1853 was part of the New Mexico Territory until 1863, when the western half was made into the Arizona Territory. The area of the former Gadsden Purchase contained a majority of Spanish-speakers until the 1940s, although the Tucson area had a higher ratio of Anglos and Mexican-Americans who were fluent in English.

New Mexico [edit]

Main article: New Mexican Spanish

New Mexico is commonly thought to have Spanish as an official language alongside English because of its wide usage and legal promotion of Spanish in the state; however, the state has no official language. New Mexico's laws are promulgated bilingually in Spanish and English. Although English is the state government's paper working language, much of the daily business of the government is

conducted in Spanish, particularly at the local level. Spanish has been spoken in the New Mexico-Colorado border and the contemporary U.S.-Mexico border since the 16th century.

Because of its relative isolation from other Spanish speaking areas over most of its 400 year existence, New Mexico Spanish, and in particular the Spanish of northern New Mexico and Colorado has retained many elements of 16th and 17th century Spanish and has developed its own vocabulary.[13] In addition, it contains many Nahuatl words as well as words from the Pueblo languages of the upper Rio Grande Valley, Mexican-Spanish words (*mexicanismos*), and borrowings from English.[13] Grammatical changes include the loss of the second person verb form, changes in verb endings, particularly in the preterite, and partial merging of the second and third conjugations.[14]

Texas [edit]

This section **needs additional citations for verification.** Please help improve this article by adding reliable references. Unsourced material may be challenged and removed. *(June 2010)*

"No Smoking" sign in Spanish and English at the headquarters of the Texas Department of State Health Services in Austin, Texas

In Texas, English is conventionally used in government; the state has no official language. The continual influx of Spanish-speaking immigrants increased the import of Spanish in Texas. Even in the 21st century, Texas's counties bordering Mexico are mostly Hispanic, hence, Spanish is the common language of the region's multi-generational Mexican Americans, yet, they are more English-proficient than their southern counterparts. Spanish in West Texas, particularly El Paso, is distinctly different from Spanish elsewhere in Texas, having a richer vocabulary and higher literacy in Spanish.[citation needed] The Government of Texas, through Section 2054.116 of the Government Code, mandates that state agencies provide information on their website in Spanish to assist residents who have limited English.[15]

Puerto Rico [edit]

The Commonwealth of Puerto Rico recognizes Spanish and English as official languages; Spanish is the dominant first language.

Spanish place names [edit]

Main article: List of U.S. place names of Spanish origin

Learning trends in the U.S. [edit]

Spanish is currently the most widely-taught non-English language in U.S. secondary schools and of higher education ([1]). More than 1.4 million university students were enrolled in language courses in autumn of 2002 and Spanish is the most widely-taught language in American colleges and universities with 53 percent of the total number of people enrolled, followed by French (14.4%), German (7.1%) Italian (4.5%), American Sign language (4.3%), Japanese (3.7%), and Chinese (2.4%) although the totals remain relatively small in relation to the total U.S population. [2] [3]

Common American English words derived from Spanish [edit]

See also List of English words of Spanish origin

- Buckaroo (*vaquero*)
- Cafeteria (*cafetería*)
- Corral
- Desperado (*desesperado*)
- Guerrilla
- Guitar (*guitarra*)
- Lariat[citation needed]
- Lasso ("lazo")
- Potato ("Patata")
- Rodeo
- Siesta
- Tornado

- Chocolate (from Nahuatl *xocoatl*)
- Junta
- Ranch ("Rancho")
- Wrangler (*caballerango*) [*citation needed*]

Variation [edit]

The influence of English on American Spanish is very important. In many Latino youth subcultures, it is fashionable to variously mix Spanish and English, thereby producing Spanglish. *Spanglish* is the name for the admixture of English words and phrases to Spanish for effective communication.

The new generation of American Hispanics want to preserve knowing and using Spanish as equal to learning and using English. The small *Academia Norteamericana de la Lengua Española* (North American Academy of the Spanish Language) tracks the developments of the Spanish spoken in the United States, and the influences of English upon it.

Language experts distinguish the following varieties of the Spanish spoken in the United States:[*citation needed*]

- Cuban (1959-to date): Florida and New Jersey
- Dominican (1943-to date): New York City, Miami, Boston, Philadelphia and Providence
- Salvadoran-Honduran (1598-to date): New Jersey, Washington D.C., Los Angeles, Baltimore, and New Orleans
- Nicaraguan (1979-to date): Miami, Los Angeles, New Orleans, Houston
- Isleño (Islander) (18th century-to date): St. Bernard Parish, Louisiana
- Mexican (also Chicano or Tex-Mex [20th century]): the U.S.-Mexico border, from southern California to Texas to Illinois
- New Mexican (1598-to date)
  - Traditional Spanish (1598-to date): Central and north-central New Mexico and south-central Colorado
  - Renovador (Renovating Spanish) (20th century): The border regions of Arizona, Texas, and New Mexico, and southeastern Colorado
- Puerto Rican (1898-to date): New York City, Boston, Philadelphia, and other large northeastern cities, and Illinois, Orlando and Tampa
- Spanish (1939-to date): all over the U.S..

Analogously, many Spanish words now are standard American English. For a detailed list of borrowed words, see American English.

Future of Spanish in the United States [edit]

Many factors indicate that Spanish in the U.S. is healthy. Living an exclusively Hispanophone life is viable in some areas because of continual immigration and prevalent Spanish-language mass media, such as Univisión, Telemundo, and Azteca América.

Moreover, because of the North American Free Trade Agreement, it is common for many American manufacturers to use trilingual product labeling using English, French and Spanish. Besides the businesses that always have catered to Hispanophone immigrants, a small, but increasing, number of mainstream American retailers now advertise bilingually in Spanish-speaking areas and offer bilingual, English-Spanish customer services.

The State of the Union Addresses and other presidential speeches are translated to Spanish, following the precedent set by the Bill Clinton administration. Official Spanish translations are available at Whitehouse.gov. Moreover, non-Hispanic politicians fluent in Spanish speak in Spanish to Hispanic majority constituencies. There are 500 Spanish newspapers, 152 magazines, and 205 publishers in the U.S.; magazine and local television advertising expenditures for the Hispanic market have increased much from 1999 to 2003, with growth of 58 percent and 43 percent, respectively.

This guarantees Spanish's survival in the U.S., yet, it is necessary to remember that, historically, the immigrant's original languages tend to disappear or become reduced through generational assimilation. Spanish disappeared in several countries and U.S. territories during the 20th century, notably in the Pacific Island countries of Guam, Micronesia, Palau, the Northern Marianas islands, and the Marshall Islands. In the Philippines, it is virtually extinct; 2,658 speakers, per the 1990 Census, although

Philippines, it is virtually extinct, 2,850 speakers, per the 1990 Census, although Spanish loan words persist.

The English-only movement seeks to establish English as the sole official language of the U.S. Generally, they exert political public pressure upon Hispanophone immigrants to learn English and speak it publicly; as universities, business, and the professions use English, there is much social pressure to learn English for upward socio-economic mobility.

Generally, U.S. Hispanics (13.4% of the 2002 population) are bilingual to a degree. A Simmons Market Research survey recorded that 19 percent of the U.S.'s Hispanic population speak only Spanish, 9.0 percent speak only English, 55 percent have limited English proficiency, and 17 percent are fully English-Spanish bilingual.

Intergenerational transmission of Spanish is a more accurate indicator of Spanish's future in the U.S. than raw statistical numbers of Hispanophone immigrants. Although Latin American immigrants hold varying English proficiency levels, almost all second-generation Hispanic Americans speak English, yet about 50 percent speak Spanish at home. Two-thirds of third-generation Mexican Americans speak only English at home.

Federal agencies such as the United States Postal Service post Spanish language signs where their customers speak Spanish.

Calvin Veltman undertook, for the National Center for Education Statistics and for the Hispanic Policy Development Project, the most complete study of English language adoption by Hispanophone immigrants. Mr Veltman's language shift studies document high bilingualism rates and subsequent adoption of English as the preferred language of Hispanics, particularly by the young and the native-born. The complete set of these studies' demographic projections postulates the near-complete assimilation of a given Hispanophone immigrant cohort within two generations. Although his study based itself upon a large 1976 sample from the Bureau of the Census (which has not been repeated), data from the 1990 Census tend to confirm the great Anglicization of the U.S. Hispanic population.

American literature in Spanish [edit]

Southwest Colonial literature

In 1610, Gaspar Pérez de Villagrá published his *Historia de Nuevo México* (History of New Mexico).

19th century

In 1880, José Martí moved to New York City.

Eusebio Chacón published *El hijo de la tempestad* in 1892.

20th century

Federico García Lorca wrote his collection of poems, *Poeta en Nueva York*, and the two plays *Así que pasen cinco años* and *El público* while living in New York. Giannina Braschi wrote the Latino postmodern poetry classic *El imperio de los sueños* in Spanish in New York. José Vasconcelos and Juan Ramón Jiménez were both exiled to the U.S.A.

Chicano period

See also [edit]

- Bilingual education
- Bilingualism in Canada
- English-only movement
- Isleños
- History of the Spanish language

United States portal
Latino and Hispanic American portal
Languages portal

http://en.wikipedia.org/wiki/Spanish_language_in_the_United_States 11/05/2010 09:38:00 AM

- History of the Spanish language
- Languages in the United States
- List of U.S. cities with diacritics
- List of U.S. communities with Hispanic majority populations
- Spanish in the Americas
- French language in the United States

References [edit]

1. ^ a b "Selected Social Characteristics in the United States: 2007". United States Census Bureau. Retrieved 2008-10-09.
2. ^ Languages of the world by Ethnologue
3. ^ Most widely spoken languages by Nations Online
4. ^ Most spoken languages by Ask Men
5. ^ Encarta Languages Spoken by More Than 10 Million People
6. ^ Instituto Cervantes (Enciclopedia del español en Estados Unidos)
7. ^ Instituto Cervantes' Yearbook 2006-07
8. ^ "Más 'speak spanish' que en España". Retrieved 2007-10-06.
9. ^ "2000 Census, Language in the US" (PDF). Retrieved 2007-06-05.
10. ^ "Selected Social Characteristics in the United States: 2007". United States Census Bureau. Retrieved 2008-10-09.
11. ^ United States - Data Sets - American FactFinder
12. ^ Foreign Language Enrollments in United States Institutions of Higher Learning, MLA Fall 2002.
13. ^ a b Cobos, Rubén (2003) "Introduction" *A Dictionary of New Mexico & Southern Colorado Spanish* (2nd ed.) Museum of New Mexico Press, Santa Fe, N.M., p. *ix*, ISBN 0-89013-452-9
14. ^ Cobos, Rubén (2003) "Introduction" *A Dictionary of New Mexico & Southern Colorado Spanish* (2nd ed.) Museum of New Mexico Press, Santa Fe, N.M., pp. *x-xi*, ISBN 0-89013-452-9
15. ^ "Sec. 2054.001." Texas Legislature. Retrieved on June 27, 2010.

Resources [edit]

- http://www.vistawide.com/languages/us_languages.htm
- http://www.infoplease.com/ipa/A0905275.html
- http://www.searchforthefacts.com/2009/09/do-we-have-an-official-language/

v • d • e	**Chicano languages**	[show]
v • d • e	**Dialects and regional accents of Spanish (Castilian) by continent**	[show]
v • d • e	**United States topics**	[show]

Categories: North American Spanish | Languages of the United States | American culture | Culture on the West Coast (U.S.)

This page was last modified on 30 October 2010 at 04:31.

http://webcache.googleusercontent.com/search?q=cache:aKZLjmN1He0J:www.spanish-school.com.mx/learnspanish.php+spanish+second+language+in+united+states&cd=3&hl=en&ct=clnk&gl=us 11/05/2010 09:40:38 AM

This is Google's cache of http://www.spanish-school.com.mx/learnspanish.php. It is a snapshot of the page as it appeared on Oct 29, 2010 12:40:14 GMT. The current page could have changed in the meantime. Learn more

These search terms are highlighted: spanish second language united states Text-only version

Choose a Language Home Apply Now! Contact Us

imac
Spanish Language Programs

Learn Spanish Abroad

Spanish Language Schools

XII III VI IX
8:39 AM
Friday
Local Time

Spanish Course Locations:

- Spanish in Mexico
- Spanish in Costa Rica
- Spanish in Chile
- Spanish in Argentina
- Spanish in Spain
- Spanish in Ecuador

Subscribe to:

Promotions - imac News
Newsletters - imac Blog

Name:

E-mail:

Submit

You are here > Home > Why IMAC Spanish Language Programs

IMAC Specials:

Mexico:
Get 3 to 9 hours of FREE Spanish lessons on October!

FREE 4 day vacation after your 4 week course at the beach, on us.

Package Maya Tierra

Why Learn Spanish

http://webcache.googleusercontent.com/search?q=cache:aKZLjmN1He0J:www.spanish-school.com.mx/learnspanish.php+spanish+second+language+in+united+states&cd=3&hl=en&ct=clnk&gl=us 11/05/2010 09:40:38 AM

Package Mary Tierra Guadalajara + Puerto Vallarta

Puerto Vallarta: End of year discounts, for 2010 and 2011

Costa Rica:
Alajuela: Save up to $100 USD this fall!

Ecuador:
Get 25% off your classes this fall!

Chile:
Viña del Mar: $50 USD and $100 USD savings this fall!

Spain:
End of year discounts. Book you courses for this year and next

More specials >>

Toll Free:

USA: 1-866-306 5040
England: 0-800-404 9844
Australia: 0-800-0611 0136
Canada: 1-877-442 0845
New Zealand: 0-800-449-282

Monday - Friday
9:00 AM - 8:00 PM
Saturday
9:00 AM - 6:00 PM
CST

Credentials:

imac Spanish Language Programs is a member of the following organizations:

Why Choose Spanish as Your New Foreign Language? Why is it Important to Learn Spanish?

Traditionally people from the United States are not obligated to learn another language besides English, but times have changed. Globalization has been the big push behind the increasing importance of being able to communicate with those from other countries. For that reason, (especially NAFTA), the second language US citizens are choosing to learn is Spanish. The trend now shows that Americans are studying Spanish in record numbers, but, most importantly, education in an international setting is becoming a top mandate for the American government because people need to be economically competitive. In fact, according to Businessweek magazine, more students studying for a MBA in today's world are choosing to become trilingual, the choices being English, French, and Spanish. Moreover, two of the top ten MBA schools outside the U.S. are located in Spain.

There are many other reasons why people are compelled to learn Spanish as a foreign language. Why is it important to learn Spanish? For one thing, Spanish is spoken by almost 400 million people worldwide. Even more compelling is the fact that about half of the population in the Western Hemisphere speaks Spanish, making it the primary language for as many people as English in this region of the world. Most of South America speaks primarily Spanish (aside from Brazil), as does just about all of Central America, Mexico and Latin America - over 15 countries in total. In addition, within the United States, Spanish is the second most widely spoken language after English - by a very wide margin. In the U.S. more and more opportunities are increasing for those who are fluent in both Spanish and English due to the explosion in the Spanish-speaking population. This means that being bilingual (Spanish and English) will continue to become more valuable for people who live in the U.S. with each passing year. In this economy this is extremely important to a working career.

In addition to in the U.S., Spanish is also gaining importance in Europe, where it is quickly becoming the foreign language of choice after English. It's fairly obvious to see why. Phonetically, Spanish is nearly perfect which makes it easy to learn. First, by learning Spanish fluently you can open the gateway to get by when communicating with people who speak different languages. Secondly, Spanish is the fourth most commonly spoken language in the world. According to Wikipedia, English, Chinese and Hindustani are the most commonly spoken languages, but, geographically speaking, they are only widely spoken in China and India respectively. Realizing that Spanish is spoken in more than 21 countries make learning Spanish a good choice, particularly since the US and Canada are in the same hemisphere and do business with many Latin American countries. In fact, as a romance language, Spanish can open the door to communication with many millions of other people who speak one of the other romance languages, which would create bridges to the European continent as well. Language acquisition requires special skills that, once learned, can be used to become fluent in other romance languages in much less time than it would take someone who is learning their first romance language. Basically, this is due to the similarities in grammar structure and vocabulary. Understanding a language means understanding culturally enriching aspects of different societies. In order to stay competitive in today's world, it is imperative that we learn more about other cultures and how they think.

The Facts to Support Choosing Spanish

Most people who choose to learn Spanish do so because of its popularity, especially in the Western Hemisphere and in Europe. They know that learning Spanish will give them practical knowledge - both in their daily and professional lives. The facts not only support these feelings, they show that Spanish leads other foreign languages by a wide margin for usage within the Western World. They also show that the Spanish-speaking population is expanding. For example, the projections for the Spanish-speaking population within the U.S. show that it is becoming a larger percentage of the total U.S. population every year. Following are some facts that show just how widespread the Spanish language is in the world and how it is projected to continue to grow in the near future and beyond.

The World Speaking Spanish

- If you include the number of people who are fluent in Spanish as a second language, the total number of

Instituto Cervantes
Centro Asociado
Centro Asociado Instituto Cervantes - Mexico

ACTFL CASLT
FIYTO AATSP

Diploma of Spanish as a Foreign Language

ALTO GWEA
AMCHAM ASTA

Socially Responsible Company

Our Partner Sites:

Teach English 4 week TEFL Course + Guaranteed Job Placement

TEFL job placement in Mexico and worldwide

Spanish speakers in the world is well over 400 million people. The list of countries where Spanish is either the primary language or the largest secondary language covers 28 different countries: from Andorra to Venezuela.

- Although most of the countries outside of Spain with a native Spanish speaking population are located in the Western Hemisphere, there are some notable exceptions. Spanish and French share the role as the official language of Equatorial Guinea, making it the only country on the continent of Africa with Spanish as a primary language. However, Morocco and Gibraltar also have many Spanish speakers. In Asia, the Philippines are the lone representatives for Spanish-speaking nations. As a matter of fact, the Cervantes Institute, a non-profit organization created by the Spanish government in 1991, promotes the study and teaching of the Spanish language. As of this writing, Cervantes Institute is expanding the exposure of the Spanish language and culture in the Philippines, among other places. The population of the Philippines used to be under Spanish control, and the natives already use many Spanish words. In all, Spanish is the primary language in countries across four different continents.

The U.S. Population Speaking Spanish

- According to the Pew Hispanic Research Center, the estimated number of Hispanics in the U.S. as of 2009 is 44 million. This figure means that the United States has the fifth largest Hispanic population worldwide (trailing Mexico, Colombia, Spain and Argentina - just barely behind Spain itself and Argentina). The statistics also show that approximately half of U.S. immigrants are from Latin America, and this trend does not show any signs of stopping. Moreover, this group has the highest birth rate. According to Pew Research Center, 22% of infants born in the U. S. are Hispanic as of April, 2009. The latest data from the Pew Research Center also shows the following:
    - Seven-in-ten (70%) Hispanic students speak a language other than English at home.
    - Nearly half (44%) of first-generation students speak English with difficulty, compared with 20% of second-generation students and 5% of the third-and-higher generations.
- Another indication that the language will be kept vibrant for many years to come is the fact that quite a large portion of the Spanish speaking population in the U.S. are children. In addition, by 2050, the number of Hispanics in the U.S is projected to grow exponentially to over 100 million people, which, at that point, will be approximately one quarter of the total U.S. population. That's over triple the 2000 figure in a 50-year span.

Spanish in the Media

- In the New York City area, the newscast on the Spanish-language Noticias 41 and Noticiero Univision, often have higher ratings than 'the big three' network news shows on CBS, NBC, and ABC. Approximately 8.7 percent of Internet users speak Spanish, making it the 4th most common language among the Internet community, trailing only English (32%), Japanese (about 7.4%), and German (about 5%). A recent study of 25 metro markets in the U.S. found that Spanish-language programming was the sixth most popular format.
- It's increasingly difficult to ignore the spread of Spanish in the United States. Bank ATMs offer instructions in Spanish; the Yellow Pages in many cities have added a Spanish-language insert; and Spanish is working its way into everyday use. Is there an American left who can't order fajitas with spicy jalapeños using the proper Spanish-accented flair? (Say the J like an H: fah-hee-tas)

Spanish Education / Economic Facts

- Over the past decade the demand for Spanish Language Courses worldwide have almost doubled. In both the United States and Canada, Spanish is the most popular foreign language to learn. In the U.S. Spanish is the most popular by a very wide margin.
- As countries in Latin America are strengthening and expanding their economies, they are becoming more important as trading partners. Many countries in Latin America have signed or are on the verge of signing onto NAFTA (North American Free Trade Agreement), which was originally set up by the United States, Canada and Mexico. This should further strengthen trade and business ties between these countries and the U.S. - making

Mexico. This should further strengthen trade and business ties between these countries and the U.S. - making the **Spanish language** an even more important asset for Americans in the business world.

- Just as in the past, when people had to educate themselves to keep up with the technology during post industrialization, people now increasingly need to be educated in **language** to keep up with the digital world.

References:

- Businessweek Magazine **www.businessweek.com/magazine**
- Wikipedia Encyclopedia **www.wikipedia.com**
- Pew Research Center **www.pewresearch.org**
- Vista wide: **www.vistawide.com**
- US Census: **cencus.gov.com/**

Now that you know a few of the important facts about the relevance of learning the **Spanish language**, take a step further and start learning **Spanish** next Monday!.

We offer locations worldwide where **Spanish language** is spoken, choose yours!: **Mexico**, **Costa Rica**, **Ecuador**, **Argentina**, **Chile**, and **Spain**.

Learn Spanish in Mexico:

Spanish Courses in Guadalajara:
Guadalajara has been declared, "The Most Mexican City," because of its authenticity, non-commercialization and the birthplace of Tequila beverage as well as Mariachi music. Here, you will find all of the modern conveniences of a major metropolitan area gracefully blended with all there is to love about Mexico's past. IMAC **Spanish Language** Programs in Guadalajara, Mexico has been accredited by the **Secretary of Education of Mexico since 1976.** In addition to our accreditations, IMAC has been accredited by the Instituto Cervantes as an official examination center for the Diploma in **Spanish** as a Foreign **Language**, widely known as **DELE** (Diploma de Español como lengua Extanjera). We must mention to you that we are the only accredited examination center in our region. We are also proud members of the **Instituto Cervantes' distinguished Network of Associate Centers.** **See more**

Spanish Courses in Playa del Carmen:
Learn **Spanish** in Caribbean paradise! Only 45 minutes away from Cancun, Playa del Carmen offers white sandy beaches, turquoise warm waters, and the opportunity to experience Mexico's Mayan heritage. This former fishing village offers a great environment for learning, and one of the best **Spanish** Courses in the area. **See more**

Spanish Courses in Puerto Vallarta:
Over the years this city has developed from being a small coastal town into one of Mexico's most important world class resorts. In spite it's growth, Puerto Vallarta has an "old Mexico" feeling, providing you the perfect environment to learn **Spanish** and practice while enjoying a fine beach holiday. **See more**

Spanish Courses in Cuernavaca:

Spanish Courses in Cuernavaca:
As the "City of Eternal Spring", Cuernavaca allows you the chance to escape, to relax, and to enjoy peace and quiet while learning **Spanish**, providing you with one of the richest cultural atmospheres in Mexico! With its undulating hills and its narrow cobblestone streets, Cuernavaca is a quaint colonial town reminiscent of older times. You will definitely appreciate its history, extraordinary scenery, art, and marvelous climate! **See more**

Learn Spanish in Costa Rica:

Spanish Courses in Alajuela:
Known as the "city of mangoes", Alajuela is Costa Rica's **second** most important city, only 20 minutes from the capital San Jose. Alajuela is a small, quiet and peaceful city surrounded by vivid protected natural areas, offering visitors the perfect stage for excursions, hiking, and exciting photographic safaris! The **Spanish Language** School in... **See more**

Spanish Courses in San Jose:
San Jose is Costa Rica's capital city, and the country's most important point for political and economic activity (though it's population does not exceed 400,000). Its perfect climate is tropical and mild year round, and you may enjoy many cultural activities at its theaters, museums, and botanical gardens; though you can also dance the night away at its clubs, and practice the country's most popular sport: Soccer! **See more**

Learn Spanish in Chile:

Spanish Courses in Viña del Mar:
Ranked among the safest cities in Latin America, with the highest quality of living. Known as the "garden city", Viña del Mar offers perfect Mediterranean weather year round, beautiful beaches perfect for surfing and sun bathing, and numerous parks throughout the city. A perfect place to take your **Spanish** lessons and improve your **Spanish** skills. It is also a big supporter for cultural and artistic activities, hosting an annual international music festival. **See more**

Learn Spanish in Argentina:

http://webcache.googleusercontent.com/search?q=cache:aKZLjmN1He0J:www.spanish-school.com.mx/learnspanish.php+spanish+second+language+in+united+states&cd=3&hl=en&ct=clnk&gl=us 11/05/2010 09:40:38 AM

Spanish Courses in Buenos Aires:
Capital city of Argentina and home of Tango dancing and soccer, Buenos Aires is the most elegant, cosmopolitan, and multifaceted metropolis in Latin America. With a strong European heritage, it is the Mecca for culture lovers through its numerous museums, conference rooms, art galleries, theaters, and world class national and international show performances. Truly guarantees amazement in all its visitors! **See more**

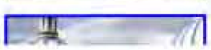
Learn Spanish in Spain:

Spanish Courses in Granada:
This Spanish Language School is based on this Spanish city devoted to culture, and supports various music and art festivals throughout the year. Home to Spain's most important university, it has also played a very important role in Spanish History. Granada's Alhambra, the stunning city between walls on top of a mountain where the monarchs and Granada's Kingdom of Nazari lived, was declared "Patrimony of mankind" by the United Nations. **See more**

Spanish Courses in Denia:
This beautiful coastal city offers perfect weather, and over 322 days of sun through the year! See the majestic Moorish Medieval fortress rising and dominating the sky line, and Natural Park Mount Mongo. Perfect spot to enjoy fine Mediterranean cuisine, and enjoy a fine beach holiday while learning Spanish! **See more**

Learn Spanish in Ecuador:

Spanish Courses in Quito:
Capital city of Ecuador and the middle of the world. The Spanish spoken here is clear and accent-free, making it the perfect place to learn Spanish! The city has a very strong cultural heritage reflected in its preserved Historical district, recognized by the United Nations as "Patrimony for mankind". **See more**



Spanish Courses in Cuenca:

http://webcache.googleusercontent.com/search?q=cache:aKZLjmN1He0J:www.spanish-school.com.mx/learnspanish.php+spanish+second+language+in+united+states&cd=3&hl=en&ct=clnk&gl=us 11/05/2010 09:40:38 AM

Spanish Courses in Cuenca:
Also recognized as patrimony for mankind by the United Natons, it is the third most important city in Ecuador. Its Historic district has also been preserved, reflected in its plazas, colonial architecture, and cobble stone streets. The city is divided by the "Tomebamba" river and offers its visitors beautiful landscapes and a privileged year round climate, due to its location between the Andes Mountains and highlands. **See more**

Spanish Courses in Galapagos:
Unlike any other place in the world, the islands are located off the coast of Ecuador. The Galapagos are famous for their unique bio-diversity of endemic species and the studies by Charles Darwin, which lead to his Theory of Evolution and natural selection. Undoubtedly a great place to experience conservation at its peak! **See more**

Spanish Courses in Amazon Jungle:
Learn **Spanish** in the heart of the Amazon Jungle, 60 minutes off the city of el Coca canoeing along the Napo River. For the adventure spirited, in the Amazon Jungle you will discover and experience protected reserves, unique bio-diversity, indigenous communities that maintain their culture alive through centuries, and more! **See more**

Spanish Courses in Spanish and Travel:
If you have only a short time to see as much of Ecuador as possible AND learn **Spanish**, consider joining the **Spanish** and Travel. The **Spanish** School combines adventure activities as biking, visiting waterfalls, hiking along the highlands, visiting local markets, exploring the Amazon Jungle, etc.; the travelling classroom offers just that and more! Perfect for adventurous first timers in Ecuador and those unsure about the location they would like to visit! **See more**

Home | Learn Spanish in Mexico | Learn Spanish in Spain | Learn Spanish in Costa Rica | Learn Spanish in Argentina | Learn Spanish in Ecuador | Learn Spanish in Chile | Spanish Language Articles | Site Map | Resources | Contact Us | TEFL TESOL | Online TEFL TESOL | TEFL jobs | Cursos de ingles en el extranjero

imac Spanish Language Programs
Donato Guerra No.180
(Historic Downtown Area)
Guadalajara, Jalisco 44100
Mexico
Tel: 52 - 33 - 3613-1080
Fax: 52-33-3613-4621
e-mail: Spanish-Imac@imac-ac.edu.mx

Certified as a SOCIALLY RESPONSIBLE COMPANY

Only language school in Mexico to have received this award.

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	11/5/2010 10:06:41 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

IMPORTANT NOTICE REGARDING YOUR U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION HAS ISSUED ON 11/5/2010 FOR SERIAL NO. 77873477

Please follow the instructions below to continue the prosecution of your application:

TO READ OFFICE ACTION: Click on this **link** **or** go to **http://portal.uspto.gov/external/portal/tow** and enter the application serial number to **access** the Office action.

PLEASE NOTE: The Office action may not be immediately available but will be viewable within 24 hours of this e-mail notification.

RESPONSE IS REQUIRED: You should carefully review the Office action to determine (1) how to respond; and (2) the applicable **response time period**. Your response deadline will be calculated from **11/5/2010** (or sooner if specified in the office action).

Do NOT hit "Reply" to this e-mail notification, or otherwise attempt to e-mail your response, as the USPTO does NOT accept e-mailed responses. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System Response Form.

HELP: For *technical* assistance in accessing the Office action, please e-mail **TDR@uspto.gov**. Please contact the assigned examining attorney with questions about the Office action.

WARNING

Failure to file the required response by the applicable deadline will result in the ABANDONMENT of your application.

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	5/27/2011 11:06:28 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	Attachment - 1 Attachment - 2 Attachment - 3 Attachment - 4 Attachment - 5 Attachment - 6

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

APPLICATION SERIAL NO. 77873477

MARK: MAGNESITA

77873477

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

CLICK HERE TO RESPOND TO THIS LETTER:
http://www.uspto.gov/trademarks/teas/response_forms.jsp

APPLICANT: MAGNESITA REFRACTORIES COMPANY

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6002/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

OFFICE ACTION

STRICT DEADLINE TO RESPOND TO THIS LETTER

TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER **WITHIN 6 MONTHS** OF THE ISSUE/MAILING DATE BELOW.

ISSUE/MAILING DATE: 5/27/2011

THIS IS A FINAL ACTION.

This letter responds to the correspondence filed on April 29, 2011.

The amendment to the recitation of services in International Class 35 has been made of record.

Final Descriptiveness Refusal

In the prior office actions the examining attorney has refused registration on the Principle Register because the term MAGNESITA was considered descriptive for the applicant's goods and services. The applicant has also stated that the English translation of MAGNESITA is magnesite or magnesia. The applicant has argued that the applicant's mark is suggestive, not descriptive for the applicant's goods. The examining attorney has considered the applicant's arguments but is not persuaded.

The applicant's mark is MAGNESITA for "refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes; computerized online ordering services featuring refractory products by means of the Internet; and providing information via a global computer network on the use of refractory products to construct,

maintain and repair refractory apparatus."

The determination of whether a mark is merely descriptive is considered in relation to the identified goods and/or services, not in the abstract. *In re Abcor Dev. Corp.*, 588 F.2d 811, 814, 200 USPQ 215, 218 (C.C.P.A. 1978); TMEP §1209.01(b); *see, e.g., In re Polo Int'l Inc.* , 51 USPQ2d 1061 (TTAB 1999) (finding DOC in DOC-CONTROL would be understood to refer to the "documents" managed by applicant's software, not "doctor" as shown in dictionary definition); *In re Digital Research Inc.*, 4 USPQ2d 1242 (TTAB 1987) (finding CONCURRENT PC-DOS merely descriptive of "computer programs recorded on disk" where relevant trade used the denomination "concurrent" as a descriptor of a particular type of operating system). "Whether consumers could guess what the product is from consideration of the mark alone is not the test." *In re Am. Greetings Corp.*, 226 USPQ 365, 366 (TTAB 1985).

The applicant's goods are refractory products, services for ordering refractory products and providing information about refractory products. The examining attorney has attached excerpts of articles that discuss magnesite and its use in refractory products. For example, the abstract of the article in *Jewelry Artist* in December of 2008 discusses that "magnesite, a major ore of the metal magnesium . . .is the preferred ore for some uses such as cement or fireproof ceramic." The abstract continues to discuss magnesite saying that it is used as a refractory in the metallurgical industry." Another article abstract discusses combining graphite with magnesite to produce refractory bricks that line furnaces."

The term MAGNESITA is not made up or fanciful. The applicant uses magnesite or magnesia in its refractory products. Magnesite is a common component in refractory products. The applicant's goods are refractory products and its services are for the sale of refractory products and for providing information about refractory products. Magnesite, as a major component of the refractory products is considered descriptive when used in connection with the applicant's goods and services.

For the above reasons, the refusal under Section 2(e)(1) is maintained and made FINAL.

Response Guidelines

If applicant does not respond within six months of the date of issuance of this final Office action, the application will be abandoned. 15 U.S.C. §1062(b); 37 C.F.R. §2.65(a). Applicant may respond to this final Office action by:

(1) Submitting a response that fully satisfies all outstanding requirements, if feasible; and/or

(2) Filing an appeal to the Trademark Trial and Appeal Board, with an appeal fee of $100 per class.

37 C.F.R. §§2.6(a)(18), 2.64(a); TBMP ch. 1200; TMEP §714.04.

In certain rare circumstances, a petition to the Director may be filed pursuant to 37 C.F.R. §2.63(b)(2) to review a final Office action that is limited to procedural issues. 37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.146(b); TBMP §1201.05; TMEP §1704 (explaining petitionable matters). The petition fee is $100. 37 C.F.R. §2.6(a)(15).

/Dawn Feldman Lehker/
Trademark Examining Attorney
U.S. Patent and Trademark Office
dawn.feldman-lehker@uspto.gov
(571) 272-9381
F (571)273-9111

TO RESPOND TO THIS LETTER: Go to http://www.uspto.gov/trademarks/teas/response_forms.jsp. Please wait 48-72 hours from the issue/mailing date before using TEAS, to allow for necessary system updates of the application. For *technical* assistance with online forms, e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned trademark examining attorney. **E-mail communications will not be accepted as responses to Office actions; therefore, do not respond to this Office action by e-mail.**

All informal e-mail communications relevant to this application will be placed in the official application record.

WHO MUST SIGN THE RESPONSE: It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

PERIODICALLY CHECK THE STATUS OF THE APPLICATION: To ensure that applicant does not miss crucial deadlines or official notices, check the status of the application every three to four months using Trademark Applications and Registrations Retrieval (TARR) at

http://tarr.uspto.gov/. Please keep a copy of the complete TARR screen. If TARR shows no change for more than six months, call 1-800-786-9199. For more information on checking status, see http://www.uspto.gov/trademarks/process/status/.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/teas/eTEASpageE.htm.

Document View

Mechanisms of Fenton-like reactions for reduction of refractory compounds

by Hui, Yuanyuan, Ph.D., **Washington State University**, 2001, 121 pages; AAT 3023584

Abstract (Summary)

Mechanisms of Fenton-like reactions for reduction of refractory compounds were investigated through four different studies on: (1) developing a methodology for detection of hydroxyl radicals (OH), superoxide anions (O2 $^{\cdot-}$), and hydroperoxide anions (HO2 $^-$) using reaction-specific probe molecules; (2) determining the relative generation of OH , O2 $^{\cdot-}$, and HO2 $^-$ in modified Fenton's reaction; (3) studying the generation of OH , O2 $^-$, and HO2 $^-$ in Fenton-like reactions catalyzed by nine traces minerals: anatase, bauxite, calcite, cuprite, ilmenite, magnesite, manganite, siderite, and willemite; (4) inspecting the Fenton's catalytic activity of Fe $^{3+}$ exchanged on three model exchange materials: montmorillonite, kaolinite, and natural soil.

In the first study, oxidants and reductants were generated separately in three systems: (1) dilute hydrogen peroxide (H_2O_2) catalyzed by ferrous perchlorate for OH; (2) dissolution of potassium superoxide in water for $O_2^{\cdot-}$; (3) decomposition of H_2O_2 at pH 12 for HO_2^-. 1-Hexanol, CT, and TNB as probes reacted only with OH , $O_2^{\cdot-}$, and HO_2^-, respectively. The generation of OH oxidation products in modified Fenton's reactions catalyzed by ferric sulfate was found not to be fully recovered comparing to the degraded probes.

Based on the results in the first study, the following research was investigated using 1-hexanol, CT, and TNB as the probes for detecting the oxidative and reductive mechanisms in different Fenton-like systems. In modified Fenton's systems catalyzed by ferric sulfate, increasing pH significantly decreased the generation of HO_2^- and OH but $O_2^{\cdot-}$. The generation of HO_2^- generally required high concentrations of H_2O_2.

In trace minerals-catalyzed Fenton-like reactions, the systems catalyzed by cuprite, manganite, and siderite generated OH . All the systems generated $O_2^{\cdot-}$ except those with anatase. The generation of HO_2^- generally required high concentration of H_2O_2, but was not achieved with manganite and siderite even using high concentration of H_2O_2.

All the oxidant and reductants were generated in Fe $^{3+}$-exchanged montmorillonite-catalyzed Fenton-like system. Only OH and $O_2^{\cdot-}$ were formed in Fe $^{3+}$-exchanged kaolinite system. Only $O_2^{\cdot-}$ was generated in the Fe $^{3+}$-exchanged soil system, which was related to natural soil.

Indexing (document details)

Advisor:	Watts, Richard J.
School:	Washington State University
School Location:	United States -- Washington
Keyword(s):	Fenton-like reactions, Reduction, Refractory compounds, Hydroxyl radical, Superoxide anion, Hydroperoxide anion
Source:	DAI-B 62/08, p. 3748, Feb 2002
Source type:	Dissertation
Subjects:	Environmental engineering
Publication Number:	AAT 3023584
ISBN:	9780493351926
Document URL:	http://proquest.umi.com/pqdweb?did=725968651&sid=1&Fmt=2&clientId=19649&RQT=309&VName=PQD
ProQuest document ID:	725968651

ProQuest

Document View

Business Wire

Research and Markets: World Refractory Magnesia Market Moving Back Towards Balance

Abstract (Summary)

Full Text

ProQuest

Return to the USPTO NPL Page | Help

Basic | Advanced | Topics | Publications | My Research 0 marked items

Interface language: English

Databases selected: Multiple databases...

Document View

« Back to Results

< Previous Document 32 of 83 Next >

Print | Email | Copy link | Cite this | Mark Document

Translate abstract from: Select language

MAGNESITE

Claus Hedegaard. Jewelry Artist. San Diego: Dec 2008. Vol. 62, Iss. 9; pg. 66

Abstract (Summary)

Hedegaard discusses magnesite, a major ore of the metal magnesium--the other source is brine--and is the preferred ore for some uses, such as cement or fireproof ceramic. It's used for stucco and for floors, particularly in wet rooms. When heated to 1400-1500 °C, pure magnesite will be "dead burnt," containing less than 0.5% carbon dioxide. This is used as a refractory in the metallurgical industry. Hydrated, burnt magnesite dissolved in water is called milk of magnesia, and is an old household remedy for stomach pain, poor digestion, and acidity. In addition, magnesite is also one of the most common minerals in gemstone jewelry.

Find more documents like this:

Subjects:
- Minerals
- Jewelry
- Metallurgy
- Precious stones

More options

Search | Clear

Indexing (document details)

Subjects:	Minerals, Jewelry, Metallurgy, Precious stones
Author(s):	Claus Hedegaard
Document types:	Feature
Document features:	Photographs, Tables
Section:	ROCK CORNER
Publication title:	Jewelry Artist. San Diego: Dec 2008. Vol. 62, Iss. 9; pg. 66
Source type:	Periodical
ISSN:	19365942
ProQuest document ID:	1610392631
Document URL:	http://proquest.umi.com/pqdweb?did=1610392631&sid=1&Fmt=2&clientId=19649&RQT=309&VName=PQD

Print | Email | Copy link | Cite this | Mark Document

Publisher Information

^ Back to Top

« Back to Results

< Previous Document 32 of 83 Next >

Text-only interface

ProQuest

http://proquest.umi.com/pqdweb?index=31&did=1610392631&SrchMode=1&sid=1&Fmt=2&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1305043640&clientId=19649

12:07:51 PM 5/10/2011

Document View

www.companiesandmarkets.com: Clay Brick & Product Manufacturing in the US

Anonymous. M2 Presswire. Coventry: May 21, 2009.

Abstract (Summary)

The Clay Brick & Product Manufacturing industry comprises establishments primarily engaged in manufacturing: brick and structural clay tiles (NAICS 327121); ceramic wall and floor tiles (NAICS 327122); other structural clay products such as clay sewer pipe, drain tile, flue lining tile, architectural terra-cotta, and other structural clay products (NAICS 327123); clay refractory manufacturing such as mortar, brick, block, tile, and fabricated clay refractories such as melting pots (NAICS 327124); and nonclay refractory, mortar, brick, block, tile, and fabricated nonclay refractories such as graphite, magnesite, silica, or alumina crucibles (NAICS 327125).A refractory is a material that will retain its shape and chemical identity when subjected to high temperatures and is used in applications that require extreme resistance to heat, such as furnace linings.

» Jump to indexing (document details)

Full Text (1042 words)

M2 PRESSWIRE-May 21, 2009-www.companiesandmarkets.com: Clay Brick & Product Manufacturing in the US

(C)1994-2009 M2 COMMUNICATIONS -www.companiesandmarkets.com adds new report: Clay Brick & Product Manufacturing in the US

This is the replacement for the September 2008 edition of Clay Brick & Product Manufacturing in the US report.

Industry Market Research Synopsis

This Industry Market Research report from IBISWorld provides a detailed analysis of the Clay Brick & Product Manufacturing in the US industry, including key growth trends, statistics, forecasts, the competitive environment including market shares and the key issues facing the industry.

Industry Definition

The Clay Brick & Product Manufacturing industry comprises establishments primarily engaged in manufacturing: brick and structural clay tiles (NAICS 327121); ceramic wall and floor tiles (NAICS 327122); other structural clay products such as clay sewer pipe, drain tile, flue lining tile, architectural terra-cotta, and other structural clay products (NAICS 327123); clay refractory manufacturing such as mortar, brick, block, tile, and fabricated clay refractories such as melting pots (NAICS 327124); and nonclay refractory, mortar, brick, block, tile, and fabricated nonclay refractories such as graphite, magnesite, silica, or alumina crucibles (NAICS 327125).A refractory is a material that will retain its shape and chemical identity when subjected to high temperatures and is used in applications that require extreme resistance to heat, such as furnace linings.

Report Contents

The Key Statistics chapter provides the key indicators for the industry for at least the last three years. The statistics included are industry revenue, industry gross product, employment, establishments, exports, imports, domestic demand and total wages.

The Market Characteristics chapter covers the following: Market Size, Linkages, Demand Determinants, Domestic and International Markets, Basis of Competition and Life Cycle. The Market Size section gives the size of the domestic market as well as the size of the export market. The Linkages section lists the industry's major supplier and major customer industries. The Demand Determinants section lists the key factors which are likely to cause demand to rise or fall. The Domestic and International Markets section defines the market for the products and services of the industry. This section provides the size of the domestic market and the proportion accounted for by imports and exports and trends in the levels of imports and exports. The Basis of Competition section outlines the key types of competition between firms within the industry as well as highlighting competition from substitute products in alternative industries. The Life Cycle section provides an analysis of which stage of development the industry is at.

The Segmentation chapter covers the following: Products and Service Segmentation, Major Market Segments, Industry Concentration and Geographic Spread. The Products and Service Segmentation section details the key products and/or services provided by this industry, highlighting the most important where possible to demonstrate which have a more significant influence over industry results as a whole. The Major Market Segments section details the key client industries and/or groups as well as giving an indication as to which of these are the most important to the industry. The Industry Concentration section provides an indicator of how much industry revenue is accounted for by the top four players. The Geographic Spread section provides a guide to the regional share of industry revenue/gross product.

The Industry Conditions chapter covers the following: Barriers to Entry, Taxation, Industry Assistance, Regulation and Deregulation, Cost Structure, Capital and Labor Intensity, Technology and Systems, Industry Volatility and Globalization. The Barriers to Entry section outlines factors that can prevent a new company from entering this industry and also gives an indication of the extent to which this occurs. The Taxation section details all kinds of taxation that are specific or are particularly important to this industry, including taxation concessions. The Industry Assistance section refers to any government and/or other measures designed to improve the performance of this industry. The Regulation and Deregulation section details any applicable regulation and/or deregulation to this industry. The Cost Structure section details the average costs for a company operating in this industry as a percentage of total revenue. The Capital and Labor Intensity section provides a guide to the amount of capital used in production/providing a service compared to the amount of labor in the total mix of inputs. The Technology and Systems section acknowledges the latest technology and/or systems available to this industry within the country. Technology refers to machinery and equipment and systems refers to methods of production that enable better and more efficient production. The Industry Volatility section refers to the year on year fluctuations which occur in industry output. The Globalization section gives an indication of the extent to which the industry is global based on factors such as the level of foreign ownership, the proportion of demand accounted for by foreign operators and the volume of production conducted in other countries.

The Performance chapter provides an analysis of both the industry's Current Performance and Historical Performance. The Current Performance section provides the key analysis for the industry over the past five years with key performance indicators discussed. The Historical Performance section details previously important events in the development of the industry.

The Key Competitors chapter lists the major players in the industry as well as an analysis of each major player's activities in the industry. Market share information is included where possible.

The Key Factors chapter covers the industry's Key Sensitivities and Key Success Factors. The Key Sensitivities section outlines the key factors that are outside the control of an operator in the industry, but are likely to have significant impact on a business. The Key Success Factors section details the factors within the control of an industry operator and which should be followed in order to be successful in the industry. Often this will include behavior that will help to minimize the effects of the Key Sensitivities.

The Outlook chapter is a key analysis section of the report and outlines expectations for the key industry indicators over the next five year period, including forecasts.

Related Reports

http://www.companiesandmarkets.com/link.asp?id=T5EWKEBDR70922

CONTACT: Mike King, Director, www.companiesandmarkets.com

Tel: +44 7813 784 393

Fax: +44 1536 790 144

e-mail: info@companiesandmarkets.com

WWW: http://www.companiesandmarkets.com/link.asp?id=T5EWKEBDR70922

Indexing (document details)

Companies:	Clay Brick & Product Manufacturing
Author(s):	Anonymous
Document types:	News
Publication title:	M2 Presswire. Coventry: May 21, 2009.
Source type:	Wire Feed
ProQuest document ID:	1722054351
Text Word Count	1042
Document URL:	http://proquest.umi.com/pqdweb?did=1722054351&sid=1&Fmt=3&clientId=19649&RQT=309&VName=PQD

Graphite's varied properties allow many uses

Cindy Hayostek. Mining Voice. Washington: Mar/Apr 2001. Vol. 7, Iss. 2; pg. 12, 1 pgs

Abstract (Summary)

Refractories - that is, bricks which line furnaces as well as ladles - often contain a high percentage of graphite. Combining carbon (graphite) with magnesite produces corrosion-resistent bricks placed in iron blast furnaces and steel furnaces, while carbonaluminia refractories are utilized for continuous steel casting operations.

» Jump to indexing (document details)

Full Text (630 words)

FOR MANY AN AMERICAN, THE WORD PENCIL conjures up a mental picture of a bright yellow, six-- sided writing instrument. In school when the "lead" in your pencil broke, you went to the pencil sharpener and spun the handle to hone the sharpest point you could possibly achieve.

Occasionally, you'd unlatch the pencil sharpener's bulbous bin, walk to the wastepaper basket by the teacher's desk and empty out a mixture of wood shavings and black powder, which at some point you learned wasn't really lead but rather something called graphite.

The word graphite evolved from the Greek word graphein, "to write." Graphite is a crystalline form of carbon, the same element that makes a diamond. But graphite is a soft mineral, and diamond is the hardest.

The difference is all in the way the carbon atoms bond together. In a diamond, the atoms form an intricate, interlocking grid, while in graphite the atoms line up in parallel, sheet-like structures.

In addition to softness, graphite's properties include a shiny luster and a greasy, slippery feel. Always gray-black in color, graphite occurs in metamorphic rocks such as gneiss, marble and schist.

Another form of carbon is fullerenes, also known as "buckyballs" for their resemblance to the geodesic domes popularized by architect Buckminster Fuller. Discovered in 1985 as a by-product of laser-- vaporized graphite, fullerenes have since been found in geological formations and interstellar dust.

Fullerenes display even more slickness than graphite, but, so far, no commercial application for them has been found. Quite the opposite is true of graphite; it has many uses, and more are under development.

Because graphite has metallic and nonmetallic properties, it has a wide range of industrial uses. The ability to conduct heat and electricity are metallic properties, while inertness and lubricity are nonmetallic properties.

Graphite is the material of choice when two surfaces repeatedly rub against each other and produce heat that must be dispersed. One example of this kind of use is in brushes in electric motors; another is in brake linings. Battery and fuel cell manufacturers also are large consumers of graphite.

Refractories - that is, bricks which line furnaces as well as ladles - often contain a high percentage of graphite. Combining carbon (graphite) with magnesite produces corrosion-resistent bricks placed in iron blast furnaces and steel furnaces, while carbonaluminia refractories are utilized for continuous steel casting operations.

More than half the graphite used in North America is synthetic. It's most commonly made by mixing ground-up petroleum coke with coal tar pitch, then heating the mixture, first to 1,2001,400 degrees Celsius (2,192-2,552 degrees Fahrenheit) and then to 2,500-3,000 degrees C (4,532-5,432 degrees F). The first calcining step followed by higher heat forces the carbon atoms to line up into graphite's parallel sheets.

The enormous electrodes used in carbon-arc furnaces to melt steel are made from synthetic graphite, and so are battery electrodes. Refractories, brake linings and lubricants require natural graphite.

No graphite was mined in the United States during 1999, according to the U.S. Geological Survey's Minerals Yearbook, but 267,000 tons of synthetic graphite were created. That year, the United States imported 80 percent of its natural graphite from China, Mexico, Canada and Brazil.

Demand for graphite is expected to increase as more uses are developed. One burgeoning area involves high performance materials based on titanium carbide-coated graphite, which resists wear, corrosion and high temperatures.

Titanium carbide composites have been engineered into an astonishing range of products. They include fishing rods, violin bows, rifle barrels, snowboards, pool cues and bicycle wheels.

All these are a far cry from the simplicity of a yellow pencil, about which a schoolteacher somewhere right now undoubtedly is telling his or her students that the "lead" is really graphite mixed with clay.

[Author Affiliation]
Cindy Hayostek is an Arizona-based freelance writer.

Indexing (document details)

Author(s):	Cindy Hayostek
Author Affiliation:	Cindy Hayostek is an Arizona-based freelance writer.
Publication title:	Mining Voice. Washington: Mar/Apr 2001. Vol. 7, Iss. 2; pg. 12, 1 pgs
Source type:	Periodical
ISSN:	10806121
ProQuest document ID:	73092384
Text Word Count	630
Document URL:	http://proquest.umi.com/pqdweb?did=73092384&sid=1&Fmt=3&clientId=19649&RQT=309&VName=PQD

Document View

Materials Science; Research on Materials Science Discussed by S. Aslani and Co-Researchers

Anonymous. Technology & Business Journal. Atlanta: Apr 12, 2011. pg. 2314

Abstract (Summary)

The results of this investigation showed that the application of reverse flotation process on the **magnesite** ore of eastern part of Iran causes an acceptable reduction on the amount of its siliceous inclusions, so that this type of the processed magnesia is suitable for utilization in the **refractory** industries, wrote S. Aslani and colleagues.

» Jump to indexing (document details)

Full Text (303 words)

2011 APR 12 - (VerticalNews.com) -- "The primary aim of this study is the beneficiation of magnesite ores from eastern part of Iran by reverse flotation process. For this purpose, the mineralogical and microstructural characteristics of the as-received and the processed ores from Iranian Afzal Abad mine were established," scientists in Tehran, Iran report.

"The liberation degree of ore was estimated at about 75 mu m. Then the as-received ore and the processed one were dead burnt to produce magnesia aggregates. These aggregates were used for production of shaped and unshaped refractories. Bricks and monolithic ramming mixes which were made from these aggregates were analysed and their mechanical and physical properties, studied. The results of this investigation showed that the application of reverse flotation process on the magnesite ore of eastern part of Iran causes an acceptable reduction on the amount of its siliceous inclusions, so that this type of the processed magnesia is suitable for utilization in the refractory industries," wrote S. Aslani and colleagues.

The researchers concluded: "The magnesia produced from the original calcined ore was not suitable for this industry due to the presence of unacceptable amount of siliceous inclusions, which make its properties very poor."

Aslani and colleagues published their study in Bulletin of Materials Science (Beneficiation of Iranian magnesite ores by reverse flotation process and its effects on shaped and unshaped refractories properties. Bulletin of Materials Science, 2010;33(6):697-705).

For additional information, contact S. Aslani, University of Tehran, School Min Engineering, Faculty Engineering, Tehran 11365, IRAN..

The publisher's contact information for the journal Bulletin of Materials Science is: Indian Acad Sciences, C V Raman Avenue, Sadashivanagar, P B #8005, Bangalore 560 080, India.

Keywords: City:Tehran, Country:Iran, Materials Science

This article was prepared by Technology Business Journal editors from staff and other reports. Copyright 2011, Technology Business Journal via VerticalNews.com.

Indexing (document details)

Subjects:	Studies
Author(s):	Anonymous
Document types:	Expanded Reporting
Publication title:	Technology & Business Journal. Atlanta: Apr 12, 2011. pg. 2314
Source type:	Periodical
ISSN:	19458398
ProQuest document ID:	2313168731
Text Word Count	303
Document URL:	http://proquest.umi.com/pqdweb?did=2313168731&sid=1&Fmt=3&clientId=19649&RQT=309&VName=PQD

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	5/27/2011 11:06:34 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

IMPORTANT NOTICE REGARDING YOUR U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION HAS ISSUED ON 5/27/2011 FOR SERIAL NO. 77873477

Please follow the instructions below to continue the prosecution of your application:

TO READ OFFICE ACTION: Click on this **link** **or** go to **http://portal.uspto.gov/external/portal/tow** and enter the application serial number to **access** the Office action.

PLEASE NOTE: The Office action may not be immediately available but will be viewable within 24 hours of this e-mail notification.

RESPONSE IS REQUIRED: You should carefully review the Office action to determine (1) how to respond; and (2) the applicable **response time period**. Your response deadline will be calculated from **5/27/2011** (or sooner if specified in the office action).

Do NOT hit "Reply" to this e-mail notification, or otherwise attempt to e-mail your response, as the USPTO does NOT accept e-mailed responses. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System Response Form.

HELP: For *technical* assistance in accessing the Office action, please e-mail **TDR@uspto.gov**. Please contact the assigned examining attorney with questions about the Office action.

WARNING

Failure to file the required response by the applicable deadline will result in the ABANDONMENT of your application.

PTO Form (Rev 4/2000)
OMB No. 0651-.... (Exp. 08/31/2004)

Request for Reconsideration after Final Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	77873477
LAW OFFICE ASSIGNED	LAW OFFICE 111
MARK SECTION (no change)	
ARGUMENT(S)	
Applicant has filed an Amendment to Allege Use in Class 19 and 37. Please consider this a request for reconsideration. Applicant submits that a new issue has been raised by the presently filed specimens of use, and that a new, non-final Office Action should be issued. Applicant submits that the application should be approved for publication.	
GOODS AND/OR SERVICES SECTION (019)(no change)	
GOODS AND/OR SERVICES SECTION (035)(class deleted)	
INTERNATIONAL CLASS	035
DESCRIPTION	
Computerized online ordering services featuring refractory products by means of the Internet	
FILING BASIS	Section 1(b)
GOODS AND/OR SERVICES SECTION (037)(no change)	
SIGNATURE SECTION	
RESPONSE SIGNATURE	/Thomas J. Moore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
DATE SIGNED	06/13/2011
AUTHORIZED SIGNATORY	YES
CONCURRENT APPEAL NOTICE FILED	NO
FILING INFORMATION SECTION	
SUBMIT DATE	Mon Jun 13 14:55:28 EDT 2011
TEAS STAMP	USPTO/RFR-XXX.XX.XXX.XX-2 0110613145528224883-77873 477-4805e4fad18e012b8ee67 8fa7d8b4fc386-N/A-N/A-201 10613145208633972

PTO Form (Rev 4/2000)
OMB No. 0651-.... (Exp. 08/31/2004)

Request for Reconsideration after Final Action

To the Commissioner for Trademarks:

Application serial no. **77873477** has been amended as follows:

ARGUMENT(S)
In response to the substantive refusal(s), please note the following:

Applicant has filed an Amendment to Allege Use in Class 19 and 37.

Please consider this a request for reconsideration. Applicant submits that a new issue has been raised by the presently filed specimens of use, and that a new, non-final Office Action should be issued.

Applicant submits that the application should be approved for publication.

CLASSIFICATION AND LISTING OF GOODS/SERVICES
Applicant hereby deletes the following class of goods/services from the application.
Class 035 for Computerized online ordering services featuring refractory products by means of the Internet

SIGNATURE(S)
Request for Reconsideration Signature
Signature: /Thomas J. Moore/ Date: 06/13/2011
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member

The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

The applicant is not filing a Notice of Appeal in conjunction with this Request for Reconsideration.

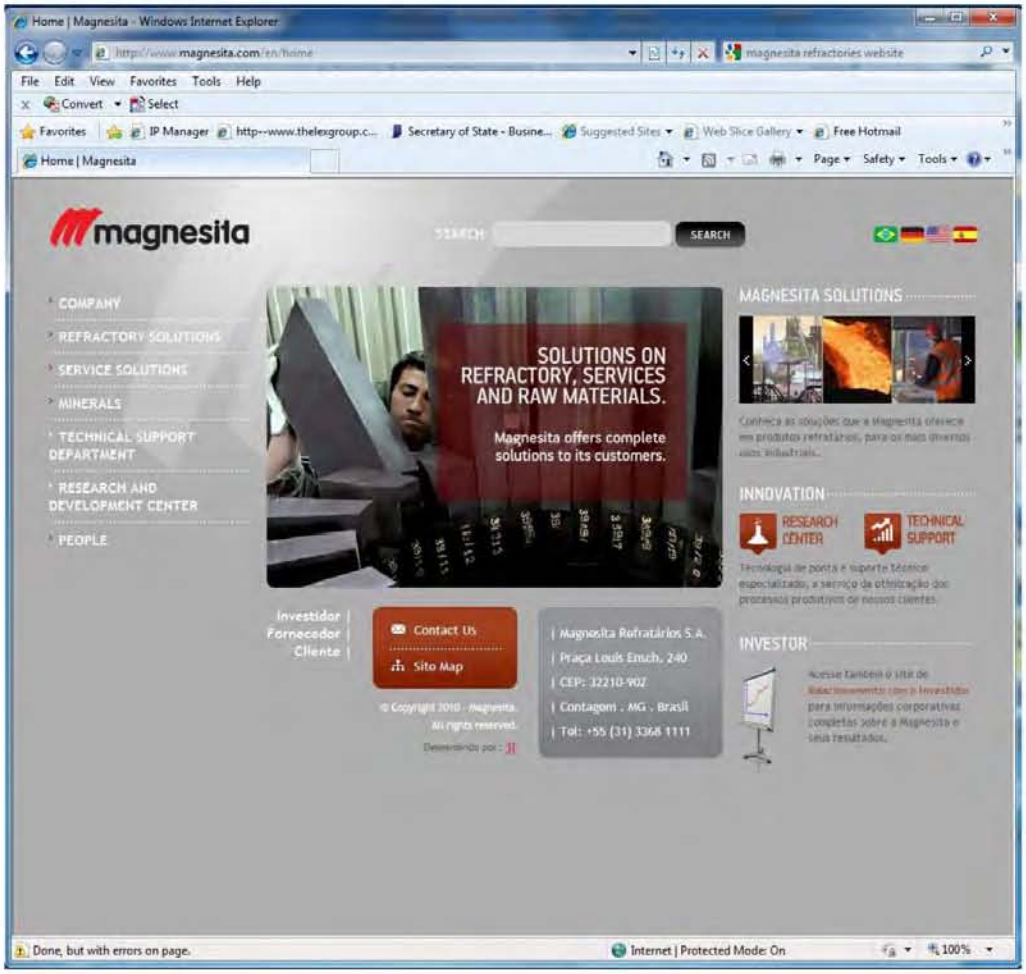
Serial Number: 77873477
Internet Transmission Date: Mon Jun 13 14:55:28 EDT 2011
TEAS Stamp: USPTO/RFR-XXX.XX.XXX.XX-2011061314552822
4883-77873477-4805e4fad18e012b8ee678fa7d
8b4fc386-N/A-N/A-20110613145208633972

AMENDMENT TO ALLEGE USE
U.S. Application No. 77873477

Specimen for Class 19

AMENDMENT TO ALLEGE USE
U.S. Application No. 77873477

Specimen for Class 37



PTO Form 1553 (Rev 9/2005)
OMB No. 0651-0054 (Exp. 09/30/2011)

Trademark/Service Mark Amendment to Allege Use
(15 U.S.C. Section 1051(c))

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	77873477
LAW OFFICE ASSIGNED	LAW OFFICE 111
EXTENSION OF USE	NO
MARK SECTION	
MARK	MAGNESITA
OWNER SECTION	
NAME	MAGNESITA REFRACTORIES COMPANY
STREET	P.O. BOX 7708
CITY	YORK
STATE	Pennsylvania
ZIP/POSTAL CODE	17404
COUNTRY	United States
GOODS AND/OR SERVICES SECTION	
INTERNATIONAL CLASS	019
CURRENT IDENTIFICATION	Refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes
GOODS OR SERVICES	KEEP ALL LISTED
FIRST USE ANYWHERE DATE	10/01/2010
FIRST USE IN COMMERCE DATE	10/01/2010
SPECIMEN FILE NAME(S)	
ORIGINAL PDF FILE	SPN0-1731015681-143627506_._2011-06-13_AAU_Specimen_-_Class_19.pdf
CONVERTED PDF FILE(S) (1 page)	\\TICRS\EXPORT11\IMAGEOUT11\778\734\77873477\xml9\AAU0002.JPG
SPECIMEN DESCRIPTION	the mark affixed to the goods
INTERNATIONAL CLASS	035
CURRENT IDENTIFICATION	Computerized online ordering services featuring refractory products by means of the Internet
GOODS OR SERVICES	DELETE ENTIRE CLASS OR PROCESS ACCORDING TO REQUEST TO DIVIDE
INTERNATIONAL CLASS	037
CURRENT IDENTIFICATION	Providing information via a global computer network on the use of refractory

	products to construct, maintain and repair refractory apparatus
GOODS OR SERVICES	KEEP ALL LISTED
FIRST USE ANYWHERE DATE	05/05/2011
FIRST USE IN COMMERCE DATE	05/05/2011
SPECIMEN FILE NAME(S)	
ORIGINAL PDF FILE	SPN2-1731015681-143627506_._2011-06-13_AAU_Specimen_-_Class_37.pdf
CONVERTED PDF FILE(S) (1 page)	\\TICRS\EXPORT11\IMAGEOUT11\778\734\77873477\xml9\AAU0003.JPG
SPECIMEN DESCRIPTION	an advertisement
REQUEST TO DIVIDE	NO
PAYMENT SECTION	
NUMBER OF CLASSES IN USE	2
SUBTOTAL AMOUNT [ALLEGATION OF USE FEE]	200
TOTAL AMOUNT	200
SIGNATURE SECTION	
DECLARATION SIGNATURE	/Kelly L. Myers/
SIGNATORY'S NAME	Kelly L. Myers
SIGNATORY'S POSITION	General Counsel
DATE SIGNED	06/13/2011
FILING INFORMATION	
SUBMIT DATE	Mon Jun 13 14:41:21 EDT 2011
TEAS STAMP	USPTO/AAU-XXX.XX.XXX.XX-2 0110613144121766606-77873 477-48099e0a561f44c429b9d 7152443a212a38-CC-856-201 10613143627506351

PTO Form 1553 (Rev 9/2005)
OMB No. 0651-0054 (Exp. 09/30/2011)

Trademark/Service Mark Amendment to Allege Use
(15 U.S.C. Section 1051(c))

To the Commissioner for Trademarks:

MARK: MAGNESITA
SERIAL NUMBER: 77873477

The applicant, MAGNESITA REFRACTORIES COMPANY, having an address of
P.O. BOX 7708
YORK, Pennsylvania 17404
United States
is submitting the following allegation of use information:

For International Class 019:
Current identification: Refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes

The mark is in use in commerce on or in connection with all goods or services listed in the application or Notice of Allowance or as subsequently modified for this specific class

The mark was first used by the applicant, or the applicant's related company, licensee, or predecessor in interest at least as early as 10/01/2010, and first used in commerce at least as early as 10/01/2010, and is now in use in such commerce. The applicant is submitting one specimen for the class showing the mark as used in commerce on or in connection with any item in the class, consisting of a(n) the mark affixed to the goods.

Original PDF file:
SPN0-1731015681-143627506_._2011-06-13_AAU_Specimen_-_Class_19.pdf
Converted PDF file(s) (1 page)
Specimen File1

For International Class 035:
Current identification: Computerized online ordering services featuring refractory products by means of the Internet

This **allegation of use** does **not** cover this specific class. This **entire class** is either to be permanently **deleted** from the application OR **processed according to a Request to Divide**.

For International Class 037:
Current identification: Providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus

The mark is in use in commerce on or in connection with all goods or services listed in the application or Notice of Allowance or as subsequently modified for this specific class

The mark was first used by the applicant, or the applicant's related company, licensee, or predecessor in interest at least as early as 05/05/2011, and first used in commerce at least as early as 05/05/2011, and is now in use in such commerce. The applicant is submitting one specimen for the class showing the mark as used in commerce on or in connection with any item in the class, consisting of a(n) an advertisement.

Original PDF file:
SPN2-1731015681-143627506_._2011-06-13_AAU_Specimen_-_Class_37.pdf
Converted PDF file(s) (1 page)
Specimen File1

The applicant is not filing a Request to Divide with this Allegation of Use form.

A fee payment in the amount of $200 will be submitted with the form, representing payment for the allegation of use for 2 classes.

Declaration

Applicant requests registration of the above-identified trademark/service mark in the United States Patent and Trademark Office on the Principal Register established by the Act of July 5, 1946 (15 U.S.C. Section 1051 et seq., as amended). Applicant is the owner of the mark sought to be registered, and is using the mark in commerce on or in connection with the goods/services identified above, as evidenced by the attached specimen(s) showing the mark as used in commerce.

The undersigned, being hereby warned that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. Section 1001, and that such willful false statements may jeopardize the validity of the form or any resulting registration, declares that he/she is properly authorized to execute this form on behalf of the applicant; he/she believes the applicant to be the owner of the trademark/service mark sought to be registered; and that all statements made of his/her own knowledge are true; and that all statements made on information and belief are believed to be true.

Signature: /Kelly L. Myers/ Date Signed: 06/13/2011
Signatory's Name: Kelly L. Myers
Signatory's Position: General Counsel

RAM Sale Number: 856
RAM Accounting Date: 06/14/2011

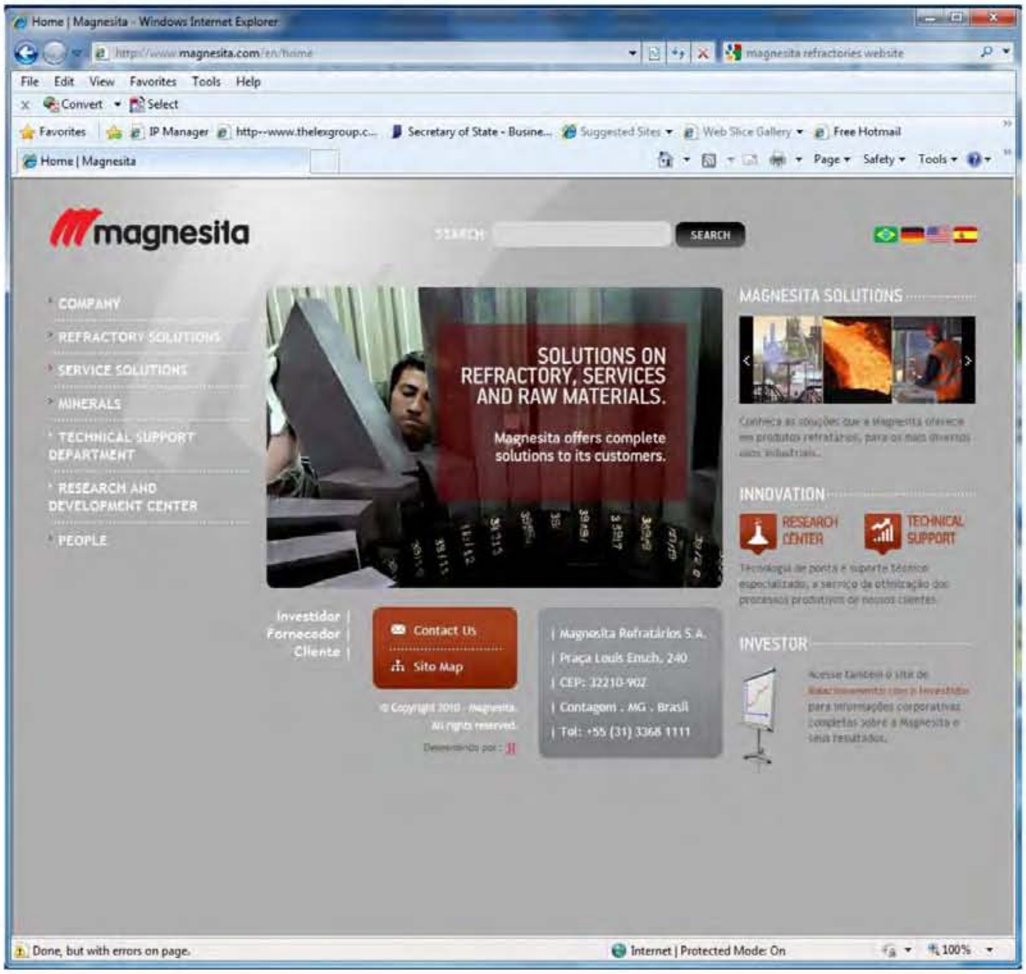
Serial Number: 77873477
Internet Transmission Date: Mon Jun 13 14:41:21 EDT 2011
TEAS Stamp: USPTO/AAU-XXX.XX.XXX.XX-2011061314412176
6606-77873477-48099e0a561f44c429b9d71524
43a212a38-CC-856-20110613143627506351

AMENDMENT TO ALLEGE USE
U.S. Application No. 77873477

Specimen for Class 19

AMENDMENT TO ALLEGE USE
U.S. Application No. 77873477

Specimen for Class 37



To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	1/9/2012 8:37:33 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	Attachment - 1 Attachment - 2 Attachment - 3 Attachment - 4 Attachment - 5

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

APPLICATION SERIAL NO. 77873477

MARK: MAGNESITA

77873477

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

CLICK HERE TO RESPOND TO THIS LETTER:
http://www.uspto.gov/trademarks/teas/response_forms.jsp

APPLICANT: MAGNESITA REFRACTORIES COMPANY

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6002/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

OFFICE ACTION

STRICT DEADLINE TO RESPOND TO THIS LETTER

TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER **WITHIN 6 MONTHS** OF THE ISSUE/MAILING DATE BELOW.

ISSUE/MAILING DATE: 1/9/2012

THIS IS A FINAL ACTION.

This letter responds to the applicant's correspondence filed on December 15, 2011.

The examining attorney has considered the applicant's arguments but has found them unpersuasive.

Final Descriptiveness Refusal

In prior office actions the examining attorney refused registration because the proposed mark was merely descriptive of the applicant's goods and services. The refusal is maintained and made FINAL.

The applicant's mark is MAGNESITA for "refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes" and for "providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus."

In the response to the first office action on March 18, 2010, the applicant submitted a translation of MAGNESITA as magnesia from Italian and magnesite from Spanish and Portuguese. The foreign equivalent of a merely descriptive English word or term is also merely descriptive. *In re*

N. Paper Mills, 64 F.2d 998, 998, 17 USPQ 492, 493 (C.C.P.A. 1933). Under the doctrine of foreign equivalents, marks with foreign words from modern languages are translated into English to determine descriptiveness. TMEP §1209.03(g); *see Palm Bay Imps., Inc. v. Veuve Clicquot Ponsardin Maison Fondee en 1772*, 396 F.3d 1369, 1377, 73 USPQ2d 1689, 1696 (Fed. Cir. 2005).

The doctrine is applied when it is likely that an ordinary American purchaser would "stop and translate" the foreign term into its English equivalent. *Palm Bay*, 396 F.3d at 1377, 73 USPQ2d at 1696; *cf.* TMEP §1207.01(b)(vi)(A). The ordinary American purchaser refers to "all American purchasers, including those proficient in a non-English language who would ordinarily be expected to translate words into English." *In re Spirits Int'l, N.V.* , 563 F.3d 1347, 1352, 90 USPQ2d 1489, 1492 (Fed. Cir. 2009); *see In re Thomas*, 79 USPQ2d 1021, 1024 (TTAB 2006) (citing J. Thomas McCarthy, *McCarthy on Trademarks and Unfair Competition* §23:26 (4th ed. 2006), which states "[t]he test is whether, to those American buyers familiar with the foreign language, the word would denote its English equivalent.").

Generally, the doctrine is applied when the English translation is a literal and exact translation of the foreign wording. *See In re Oriental Daily News, Inc.*, 230 USPQ 637, 638 (TTAB 1986) (holding Chinese characters that mean ORIENTAL DAILY NEWS merely descriptive of newspapers); *In re Zazzara*, 156 USPQ 348, 348 (TTAB 1967) (holding PIZZA FRITTE, the Italian equivalent of "fried buns," incapable for fried dough); TMEP §1209.03(g).

The wording MAGNESITA is not made up or fanciful because the word is foreign and has an English translation. The fact that the term MAGNESITA does not appear in an English dictionary has no bearing on whether the term is made up or fanciful..

The examining attorney demonstrated in the prior office actions that magnesite is a substantial component of refractory products. The applicant's goods are refractory products and its services are for providing information in the use of refractory products to construct, maintain and repair refractory apparatus. The term describes the main component of the applicant's goods. As was discussed in the first office action, a term is merely descriptive if it conveys an immediate idea of the ingredients, qualities, or characteristics of the identified goods and/or services. *See In re Steelbuilding.com*, 415 F.3d 1293, 1297, 75 USPQ2d 1420, 1422 (Fed. Cir. 2005); *In re Dial-A-Mattress Operating Corp.*, 240 F.3d 1341, 1346, 57 USPQ2d 1807, 1812 (Fed. Cir. 2001).

For the above reasons, the refusal under Section 2(e)(1) is maintained and made FINAL.

Supplemental Register

The applied-for mark has been refused registration on the Principal Register. Applicant may respond to the refusal by submitting evidence and arguments in support of registration and/or by amending the application to seek registration on the Supplemental Register. *See* 15 U.S.C. §1091; 37 C.F.R. §§2.47, 2.75(a); TMEP §§801.02(b), 816. Amending to the Supplemental Register does not preclude applicant from submitting evidence and arguments against the refusal(s). TMEP §816.04.

Final Specimen Refusal-International Class 37

In the prior office action the examining attorney refused the applicant's specimens because the specimens did not demonstrate use of the mark in commerce in connection with "providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus." In response the applicant submitted new specimens; however, the new specimens do not demonstrate use of the mark in commerce in connection with the named services.

The requirement that the applicant submit specimens that demonstrate use of the mark in commerce in connection with the services named in the application is maintained and made FINAL.

The applicant states in its response that the following statements on the specimens demonstrate use in commerce in connection with the named services. The specimens state, "modern equipment, specialized technical knowledge and collaboration with renowned universities and other technological partners place Magnesita in a leadership position regarding refractory technology." This statement, at best, demonstrates that the applicant is providing research services, it does not demonstrate that the applicant is providing information about the construction, repair and maintenance of refractory apparatus. There is absolutely nothing in the specimens that discusses construction, repair or maintenance of refractory products.

As discussed above, the specimen is not acceptable because it does not show the applied-for mark used in connection with any of the goods and/or services specified in the amendment to allege use. An amendment to allege use must include a specimen showing the applied-for mark in use in commerce for each class of goods and/or services specified in the amendment to allege use. Trademark Act Sections 1 and 45, 15 U.S.C. §§1051, 1127; 37 C.F.R. §§2.56(a), 2.76(b)(2); TMEP §§904, 1104.09(e).

Therefore, applicant must submit the following:

(1) <u>A substitute specimen</u> showing the mark in use in commerce for each class of goods and/or services specified in the amendment to allege use; and

(2) The following statement, verified with an affidavit or signed declaration under 37 C.F.R. §2.20: " **The substitute specimen was in use in commerce prior to the filing of the amendment to allege use.**" 37 C.F.R. §2.59(b)(1); TMEP §904.05; *see* 37 C.F.R. §2.193(e)(1). If submitting a substitute specimen requires an amendment to the dates of use, applicant must also verify the amended dates. 37 C.F.R. §2.71(c); TMEP §904.05.

Examples of specimens for goods are tags, labels, instruction manuals, containers, photographs that show the mark on the actual goods or packaging, or displays associated with the actual goods at their point of sale. *See* TMEP §§904.03 *et seq.* Examples of specimens for services are signs, photographs, brochures, website printouts or advertisements that show the mark used in the actual sale or advertising of the services. *See* TMEP §§1301.04 *et seq.*

If applicant cannot satisfy the above requirements, applicant may withdraw the amendment to allege use and assert use at a later date when proper specimens become available. *See* 37 C.F.R. §2.76(h). The fee for the amendment to allege use will not be refunded. TMEP §1104.10. However, if applicant withdraws the amendment to allege use, registration will not be granted until applicant amends the application back to use in commerce by filing an acceptable allegation of use with a proper specimen. *See* 15 U.S.C. §1051(c), (d); 37 C.F.R. §§2.76, 2.88; TMEP §1103.

Pending receipt of a proper response, registration is refused because the specimen does not show the applied-for mark in use in commerce as a trademark and/or service mark for the identified goods and/or services. Trademark Act Sections 1 and 45, 15 U.S.C. §§1051, 1127; 37 C.F.R. §§2.56(a), 2.76(b)(2); TMEP §§904, 904.07(a).

For the above reasons, the requirement that the applicant submit specimens that demonstrate use of the mark in commerce in connection with the services named in the application is maintained and made FINAL.

Response Guidelines

If applicant does not respond within six months of the date of issuance of this final Office action, the application will be abandoned. 15 U.S.C. §1062(b); 37 C.F.R. §2.65(a). Applicant may respond to this final Office action by:

(1) Submitting a response that fully satisfies all outstanding requirements, if feasible; and/or

(2) Filing an appeal to the Trademark Trial and Appeal Board, with an appeal fee of $100 per class.

37 C.F.R. §§2.6(a)(18), 2.64(a); TBMP ch. 1200; TMEP §714.04.

In certain rare circumstances, a petition to the Director may be filed pursuant to 37 C.F.R. §2.63(b)(2) to review a final Office action that is limited to procedural issues. 37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.146(b); TBMP §1201.05; TMEP §1704 (explaining petitionable matters). The petition fee is $100. 37 C.F.R. §2.6(a)(15).

/Dawn Feldman Lehker/
Trademark Examining Attorney
U.S. Patent and Trademark Office
dawn.feldman-lehker@uspto.gov
(571) 272-9381
F (571)273-9111

TO RESPOND TO THIS LETTER: Go to http://www.uspto.gov/trademarks/teas/response_forms.jsp. Please wait 48-72 hours from the issue/mailing date before using TEAS, to allow for necessary system updates of the application. For *technical* assistance with online forms, e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned trademark examining attorney. **E-mail communications will not be accepted as responses to Office actions; therefore, do not respond to this Office action by e-mail.**

All informal e-mail communications relevant to this application will be placed in the official application record.

WHO MUST SIGN THE RESPONSE: It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

PERIODICALLY CHECK THE STATUS OF THE APPLICATION: To ensure that applicant does not miss crucial deadlines or official notices, check the status of the application every three to four months using Trademark Applications and Registrations Retrieval (TARR) at http://tarr.uspto.gov/. Please keep a copy of the complete TARR screen. If TARR shows no change for more than six months, call

1-800-786-9199. For more information on checking status, see http://www.uspto.gov/trademarks/process/status/.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/teas/eTEASpageE.htm.

http://www.azom.com/article.aspx?ArticleID=1343 01/09/2012 08:01:46 AM

Home | News | Articles | Materials | Equipment | Products | Books | Journals | Videos | Courses | About

AZoM.com The A to Z of Materials

January 9, 2012

Search

Browse by: Materials | Applications | Industries

Terms Submit News Advertise About

Read in | English | Español | Français | Deutsch | Português | Italiano | 日本語 | 한국어 | 简体中文 繁體中文 | العربية | Dansk | Nederlands | Filipino | Finnish | Ελληνικά | עברית | हिन्दी | Bahasa | Norsk | Русский Svenska

Article | Request Quote

Print PDF | Recommend | Tweet 0 | Share | Share 4 | +1 0

This article has property data, click to view

Request Quote or More Info | More Info | More Info

Magnesia - Forms, Applications and Production Processes

Topics Covered

▸ Key Services

• NSW Department of Mineral Resources

▸ Related Books

▸ Latest Articles

• High Temperature Nanoindentation - Publications in 2011
• Electron Microscopic Observation of Fine Morphology of Wet Agar Gel Using a Typical Hydrophilic Ionic Liquid, 1-Butyl-3-Methylimidazolium Tetrafluorob
• Fabrication of First Wall Component of ITER Test Blanket Module by HIPping Reduced Activation Ferritic/Martensitic Steel
• High-Temperature Oxidation Treatment of Nano-Ni Composites by O2-HIPing
• High Strength Borosilicate Foams by Expansion of Ar-Filled Pores and Release of Dissolved Ar Gas

▸ Site Sponsors

Background

Fused Magnesia (MgO) is normally manufactured by the electric arc melting of caustic calcined magnesia, deadburned magnesia or raw magnesite in furnaces at temperatures in excess of 2750°C, producing a refractory product whose altered crystalline structure is such that its characteristics and performance are superior to competing materials.

Magnesite

Magnesite ($MgCO_3$), the naturally occurring carbonate of magnesium (Mg) is one of the key natural sources for the production of magnesia (MgO) and subsequently fused magnesia. Magnesite occurs in two distinct physical forms: macrocrystalline and cryptocrystalline. Cryptocrystalline magnesite is generally of a higher purity than macrocrystalline ore, but tends to occur in smaller deposits than the macrocrystalline form.

At present, there is only one producer of fused magnesia in Australia, QMAG, majority owned by Australian Magnesium Corporation. QMAG is a producer of refractory grade fused magnesia.

High Grade Magnesia Production

Historically, and due principally to the small size of most known cryptocrystalline deposits, production of high grade magnesia products was mainly by extraction from natural brines or seawater (synthetic MgO), a high cost and energy intensive process. High quality deposits, provide an alternative source of supply to the high cost seawater-sourced magnesia.

Uses of Fused Magnesia

Magnesia products (calcined, deadburned and fused) are widely used in a range of market applications.

Calcined Magnesia

Is used in agricultural and industrial applications, eg, as a feed supplement to cattle, fertilisers, electrical insulations, industrial fillers, and in flue gas desulphurisation.

Deadburned Magnesia

More Info
More Info
Request Quote or More Info
More Info
More Info

Is used almost exclusively for refractory applications in the form of basic bricks and granular refractories. Deadburned magnesia has the highest melting point of all common refractory oxides and is the most suitable heat containment material for high temperature processes in the steel industry. Basic magnesia bricks are used in furnaces, ladles and secondary refining vessels and in cement and glass making kilns.

Fused Magnesia

Fused magnesia is superior to deadburned magnesia in strength, abrasion resistance and chemical stability. Major applications are in refractory and electrical insulating markets. Producers of fused magnesia commonly fall into one of two categories: those producing refractory grades and those producing electrical grades. Few producers serve both markets on a mainstream basis.

Refractory Grade Fused Magnesia

The addition of fused magnesia grains can greatly enhance the performance and durability of basic refractories such as magcarbon bricks. This is a function of a higher bulk specific gravity and large periclase crystal size, plus realignment of accessory silicates. Refractory grade fused magnesia has exacting specifications and is normally characterised by the following:

- Large periclase crystal sizes (>1000 microns)

Due to its excellent corrosion resistance, refractory grade fused magnesia is used in high wear areas in steel making, eg, basic oxygen and electric arc furnaces, converters and ladles.

Ultra high purity (>99 per cent MgO) grades have been used in high-tech applications such as optical equipment, nuclear reactors and rocket nozzles.

Electrical Grade Fused Magnesia

Fused magnesia is also used as an electrical insulating material in heating elements. Although electrical grades of fused magnesia have very tight specifications, they do not necessarily require the highest MgO contents or densities. Impurities such as sulphur and iron are particularly undesirable, but the product should contain sufficient silica to enhance its electrical properties. The following are characteristic of electrical grade fused magnesia:

- Low levels of boron, sulphur, iron and trace elements.
- Lime: silica ratios of 1:2 (opposite to refractory requirements).
- Used as electrical insulating material in ceramic sheaths for heating elements.

http://www.ima-na.org/magnesia 01/09/2012 08:05:51 AM

About Industrial Minerals | About IMA-NA | Special Initiatives | Advocacy | Resources | Join IMA-NA | Events

Home | Contact Us | Site Map | Site Search

IMA-NA Industrial Minerals Association North America

There's more to industrial minerals than you think!

Did you know?

Western bentonite (sodium bentonite) is the primary component in cat litter.

Return to About Industrial Minerals

Magnesia

What is Magnesia?

Magnesia is a term used to describe various products from magnesium-rich sources. Magnesium makes up two percent of the earth's crust and is the eighth most plentiful element. It also is the third most abundant element found in sea water. The two most important magnesium minerals are magnesite ($MgCO_3$) and brucite ($Mg(OH)_2$). Magnesite is the most common source of magnesia and serves many important industrial applications. Magnesia either is produced from magnesite ore or extracted from seawater or brines as magnesium hydroxide.

The term "magnesite" literally refers only to the naturally occurring mineral, however common usage has been to apply it to the end products as well.

The two most commercially important magnesia products are dead-burned magnesia and caustic-calcined magnesia.

Dead-burned magnesia, also known as refractory magnesia, is produced from the heating of magnesite or magnesium hydroxide and is the primary component in refractory materials. The refractory industry is the greatest consumer of magnesium compounds, overall. Refractory materials are nonmetallic substances which are extremely heat resistant and are of great industrial value as the linings in furnaces, kilns and reactors. The steel industry, for instance, is the largest user of refractory magnesia.

Caustic-calcined magnesia (or light-burned magnesia) retains its reactivity and is an essential component in a number of agricultural, environmental, construction and industrial applications.

In agricultural applications, magnesia promotes both plant and livestock health. In fact, magnesium is an essential mineral for both. In plants, magnesium is vital for photosynthesis. In animals, magnesium is required to prevent an often fatal disorder known as hypomagnesia, or grass tetany.

Magnesia plays a vital role in environmental protection. It is used to treat industrial wastewater by removing silica and precipitating heavy metals. It is used to reduce air pollution by stripping sulfur dioxide from industrial air emissions. Its absorbent properties are used to cleanup hazardous chemical spills. And it often is used to render metal-bearing wastes nonhazardous.

In construction, the caustic calcined product is used to make magnesium oxychloride and oxysulfate cements. These cements are widely used in the flooring industry.

Other industrial applications include use by the oil drilling industry in drilling muds, and by the rubber industry as a vulcanizing agent.

Finally, magnesia is used in comforting consumer products such as milk of magnesia and Epsom salts.

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	1/9/2012 8:37:34 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

IMPORTANT NOTICE REGARDING YOUR U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION HAS ISSUED ON 1/9/2012 FOR SERIAL NO. 77873477

Please follow the instructions below to continue the prosecution of your application:

TO READ OFFICE ACTION: Click on this **link** **or** go to **http://portal.uspto.gov/external/portal/tow** and enter the application serial number to **access** the Office action.

PLEASE NOTE: The Office action may not be immediately available but will be viewable within 24 hours of this e-mail notification.

RESPONSE IS REQUIRED: You should carefully review the Office action to determine (1) how to respond; and (2) the applicable **response time period**. Your response deadline will be calculated from **1/9/2012** (or sooner if specified in the office action).

Do NOT hit "Reply" to this e-mail notification, or otherwise attempt to e-mail your response, as the USPTO does NOT accept e-mailed responses. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System Response Form.

HELP: For *technical* assistance in accessing the Office action, please e-mail **TDR@uspto.gov**. Please contact the assigned examining attorney with questions about the Office action.

WARNING

Failure to file the required response by the applicable deadline will result in the ABANDONMENT of your application.

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	8/28/2012 3:09:06 PM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

APPLICATION SERIAL NO. 77873477

MARK: MAGNESITA

77873477

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

CLICK HERE TO RESPOND TO THIS LETTER:
http://www.uspto.gov/trademarks/teas/response_forms.jsp

APPLICANT: MAGNESITA REFRACTORIES COMPANY

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6002/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

OFFICE ACTION

STRICT DEADLINE TO RESPOND TO THIS LETTER

TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER **WITHIN 6 MONTHS** OF THE ISSUE/MAILING DATE BELOW.

ISSUE/MAILING DATE: 8/28/2012

THIS IS A FINAL ACTION.

This letter responds to the applicant's correspondence filed on July 26, 2012.

The amendment to the recitation of services has been made of record.

Final Descriptiveness Refusal

In prior office actions the examining attorney refused registration because the proposed mark was merely descriptive of the applicant's goods and services. The refusal is maintained and made FINAL.

The applicant's mark is MAGNESITA for "refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes" and for "providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus."

In the response to the first office action on March 18, 2010, the applicant submitted a translation of MAGNESITA as magnesia from Italian and magnesite from Spanish and Portuguese. The foreign equivalent of a merely descriptive English word or term is also merely descriptive. *In re N. Paper Mills*, 64 F.2d 998, 998, 17 USPQ 492, 493 (C.C.P.A. 1933). Under the doctrine of foreign equivalents, marks with foreign words from modern languages are translated into English to determine descriptiveness. TMEP §1209.03(g); *see Palm Bay Imps., Inc. v. Veuve Clicquot Ponsardin Maison Fondee en 1772*, 396 F.3d 1369, 1377, 73 USPQ2d 1689, 1696 (Fed. Cir. 2005).

The doctrine is applied when it is likely that an ordinary American purchaser would "stop and translate" the foreign term into its English

equivalent. *Palm Bay*, 396 F.3d at 1377, 73 USPQ2d at 1696; *cf.* TMEP §1207.01(b)(vi)(A). The ordinary American purchaser refers to "all American purchasers, including those proficient in a non-English language who would ordinarily be expected to translate words into English." *In re Spirits Int'l, N.V.* , 563 F.3d 1347, 1352, 90 USPQ2d 1489, 1492 (Fed. Cir. 2009); *see In re Thomas*, 79 USPQ2d 1021, 1024 (TTAB 2006) (citing J. Thomas McCarthy, *McCarthy on Trademarks and Unfair Competition* §23:26 (4th ed. 2006), which states "[t]he test is whether, to those American buyers familiar with the foreign language, the word would denote its English equivalent.").

Generally, the doctrine is applied when the English translation is a literal and exact translation of the foreign wording. *See In re Oriental Daily News, Inc.*, 230 USPQ 637, 638 (TTAB 1986) (holding Chinese characters that mean ORIENTAL DAILY NEWS merely descriptive of newspapers); *In re Zazzara*, 156 USPQ 348, 348 (TTAB 1967) (holding PIZZA FRITTE, the Italian equivalent of "fried buns," incapable for fried dough); TMEP §1209.03(g).

The wording MAGNESITA is not made up or fanciful because the word is foreign and has an English translation. The fact that the term MAGNESITA does not appear in an English dictionary has no bearing on whether the term is made up or fanciful. The word MAGNESITA has an English translation.

The applicant attached negative dictionary evidence in that MAGNESITA does not appear in an English dictionary. This evidence is not relevant to the discussion above. MAGNESITA translates to the term magnesite. As shown above, the doctrine of foreign equivalents treats the term MAGNESITA as descriptive.

The examining attorney demonstrated in the prior office actions that magnesite is a substantial component of refractory products. The applicant's goods are refractory products and its services are for providing information in the use of refractory products to construct, maintain and repair refractory apparatus. The term describes the main component of the applicant's goods. As was discussed in the first office action, at term is merely descriptive if it conveys an immediate idea of the ingredients, qualities, or characteristics of the identified goods and services. *See In re Steelbuilding.com*, 415 F.3d 1293, 1297, 75 USPQ2d 1420, 1422 (Fed Cir. 2005); *In re Dial-A-Mattress Operating Corp.*, 249 F.3d 1341, 1346, 57 USPQ2d 1807, 1812 (Fed. Cir. 2001)

For the above reasons, the refusal under Section 2(e)(1) is maintained and made FINAL.

Supplemental Register Suggested

The applied-for mark has been refused registration on the Principal Register. Applicant may respond to the refusal by submitting evidence and arguments in support of registration and/or by amending the application to seek registration on the Supplemental Register. *See* 15 U.S.C. §1091; 37 C.F.R. §§2.47, 2.75(a); TMEP §§801.02(b), 816. Amending to the Supplemental Register does not preclude applicant from submitting evidence and arguments against the refusal(s). TMEP §816.04.

Response Guidelines

If applicant does not respond within six months of the date of issuance of this final Office action, the application will be abandoned. 15 U.S.C. §1062(b); 37 C.F.R. §2.65(a). Applicant may respond to this final Office action by:

(1) Submitting a response that fully satisfies all outstanding requirements, if feasible; and/or

(2) Filing an appeal to the Trademark Trial and Appeal Board, with an appeal fee of $100 per class.

37 C.F.R. §§2.6(a)(18), 2.64(a); TBMP ch. 1200; TMEP §714.04.

In certain rare circumstances, a petition to the Director may be filed pursuant to 37 C.F.R. §2.63(b)(2) to review a final Office action that is limited to procedural issues. 37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.146(b); TBMP §1201.05; TMEP §1704 (explaining petitionable matters). The petition fee is $100. 37 C.F.R. §2.6(a)(15).

/Dawn Feldman Lehker/
Trademark Examining Attorney
Law Office 111
U.S. Patent and Trademark Office
(571)272-9381
dawn.feldman-lehker@uspto.gov

TO RESPOND TO THIS LETTER: Go to http://www.uspto.gov/trademarks/teas/response_forms.jsp. Please wait 48-72 hours from the issue/mailing date before using TEAS, to allow for necessary system updates of the application. For *technical* assistance with online forms, e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned trademark examining attorney. **E-mail communications will not be accepted as responses to Office actions; therefore, do not respond to this Office action by e-mail.**

All informal e-mail communications relevant to this application will be placed in the official application record.

WHO MUST SIGN THE RESPONSE: It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

PERIODICALLY CHECK THE STATUS OF THE APPLICATION: To ensure that applicant does not miss crucial deadlines or official notices, check the status of the application every three to four months using Trademark Applications and Registrations Retrieval (TARR) at http://tarr.uspto.gov/. Please keep a copy of the complete TARR screen. If TARR shows no change for more than six months, call 1-800-786-9199. For more information on checking status, see http://www.uspto.gov/trademarks/process/status/.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/teas/eTEASpageE.htm.

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	8/28/2012 3:09:07 PM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

IMPORTANT NOTICE REGARDING YOUR

U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION HAS ISSUED ON 8/28/2012 FOR SERIAL NO. 77873477

Please follow the instructions below to continue the prosecution of your application:

TO READ OFFICE ACTION: Click on this **link** **or** go to **http://portal.uspto.gov/external/portal/tow** and enter the application serial number to **access** the Office action.

PLEASE NOTE: The Office action may not be immediately available but will be viewable within 24 hours of this e-mail notification.

RESPONSE IS REQUIRED: You should carefully review the Office action to determine (1) how to respond; and (2) the applicable **response time period**. Your response deadline will be calculated from **8/28/2012** (or sooner if specified in the office action).

Do NOT hit "Reply" to this e-mail notification, or otherwise attempt to e-mail your response, as the USPTO does NOT accept e-mailed responses. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System Response Form.

HELP: For *technical* assistance in accessing the Office action, please e-mail **TDR@uspto.gov**. Please contact the assigned examining attorney with questions about the Office action.

WARNING

Failure to file the required response by the applicable deadline will result in the ABANDONMENT of your application.

PTO Form 1478 (Rev 9/2006)
OMB No. 0651-0009 (Exp 12/31/2014)

Trademark/Service Mark Application, Principal Register

Serial Number: 85834316
Filing Date: 01/28/2013

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	85834316
MARK INFORMATION	
***MARK**	MAGNESITA
STANDARD CHARACTERS	YES
USPTO-GENERATED IMAGE	YES
LITERAL ELEMENT	MAGNESITA
MARK STATEMENT	The mark consists of standard characters, without claim to any particular font, style, size, or color.
REGISTER	Principal
APPLICANT INFORMATION	
***OWNER OF MARK**	Magnesita Refractories Company
***STREET**	425 S. Salem Church Rd.
***CITY**	York
***STATE (Required for U.S. applicants)**	Pennsylvania
***COUNTRY**	United States
***ZIP/POSTAL CODE (Required for U.S. applicants only)**	17408
LEGAL ENTITY INFORMATION	
TYPE	corporation
STATE/COUNTRY OF INCORPORATION	Pennsylvania
GOODS AND/OR SERVICES AND BASIS INFORMATION	
INTERNATIONAL CLASS	019
***IDENTIFICATION**	refractory products not primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes; and pre-cast refractory shapes
FILING BASIS	SECTION 1(a)
FIRST USE ANYWHERE DATE	At least as early as 10/01/2010
FIRST USE IN COMMERCE DATE	At least as early as 10/01/2010
SPECIMEN FILE NAME(S)	\\TICRS\EXPORT16\IMAGEOUT 16\858\343\85834316\xml1\ APP0003.JPG

SPECIMEN DESCRIPTION	image of the trademark affixed to the goods
INTERNATIONAL CLASS	037
*IDENTIFICATION	providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus using refractory products; and providing information via a global computer network on the use of mechanical equipment and computer models to construct, maintain and repair refractory installations
FILING BASIS	SECTION 1(a)
FIRST USE ANYWHERE DATE	At least as early as 10/01/2010
FIRST USE IN COMMERCE DATE	At least as early as 10/01/2010
SPECIMEN FILE NAME(S)	\\TICRS\EXPORT16\IMAGEOUT 16\858\343\85834316\xml1\ APP0004.JPG
SPECIMEN DESCRIPTION	advertisement on a web page
ADDITIONAL STATEMENTS SECTION	
PRIOR REGISTRATION(S)	The applicant claims ownership of U.S. Registration Number(s) 4080761.
ATTORNEY INFORMATION	
NAME	Thomas J. Moore
ATTORNEY DOCKET NUMBER	MAGN6029/TJM
FIRM NAME	BACON & THOMAS, PLLC
STREET	625 Slaters Lane, Fourth Floor
CITY	Alexandria
STATE	Virginia
COUNTRY	United States
ZIP/POSTAL CODE	22314-1176
PHONE	703-683-0500
FAX	703-683-1080
EMAIL ADDRESS	mail@baconthomas.com
AUTHORIZED TO COMMUNICATE VIA EMAIL	Yes
OTHER APPOINTED ATTORNEY	Eugene Mar, Richard E. Fichter, Felix J. D'Ambrosio, Justin J. Cassell, and John R. Schaefer
CORRESPONDENCE INFORMATION	
NAME	Thomas J. Moore
FIRM NAME	BACON & THOMAS, PLLC
STREET	625 Slaters Lane, Fourth Floor
CITY	Alexandria
STATE	Virginia
COUNTRY	United States
ZIP/POSTAL CODE	22314-1176
PHONE	703-683-0500

FAX	703-683-1080
EMAIL ADDRESS	mail@baconthomas.com
AUTHORIZED TO COMMUNICATE VIA EMAIL	Yes
FEE INFORMATION	
NUMBER OF CLASSES	2
FEE PER CLASS	325
***TOTAL FEE DUE**	650
***TOTAL FEE PAID**	650
SIGNATURE INFORMATION	
SIGNATURE	/Thomas J. Moore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
DATE SIGNED	01/28/2013

PTO Form 1478 (Rev 9/2006)
OMB No. 0651-0009 (Exp 12/31/2014)

Trademark/Service Mark Application, Principal Register

Serial Number: 85834316
Filing Date: 01/28/2013

To the Commissioner for Trademarks:

MARK: MAGNESITA (Standard Characters, see mark)
The literal element of the mark consists of MAGNESITA.
The mark consists of standard characters, without claim to any particular font, style, size, or color.

The applicant, Magnesita Refractories Company, a corporation of Pennsylvania, having an address of
425 S. Salem Church Rd.
York, Pennsylvania 17408
United States

requests registration of the trademark/service mark identified above in the United States Patent and Trademark Office on the Principal Register established by the Act of July 5, 1946 (15 U.S.C. Section 1051 et seq.), as amended, for the following:

International Class 019: refractory products not primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes; and pre-cast refractory shapes

In International Class 019, the mark was first used by the applicant or the applicant's related company or licensee or predecessor in interest at least as early as 10/01/2010, and first used in commerce at least as early as 10/01/2010, and is now in use in such commerce. The applicant is submitting one(or more) specimen(s) showing the mark as used in commerce on or in connection with any item in the class of listed goods and/or services, consisting of a(n) image of the trademark affixed to the goods.
Specimen File1

International Class 037: providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus using refractory products; and providing information via a global computer network on the use of mechanical equipment and computer models to construct, maintain and repair refractory installations

In International Class 037, the mark was first used by the applicant or the applicant's related company or licensee or predecessor in interest at least as early as 10/01/2010, and first used in commerce at least as early as 10/01/2010, and is now in use in such commerce. The applicant is submitting one(or more) specimen(s) showing the mark as used in commerce on or in connection with any item in the class of listed goods and/or services, consisting of a(n) advertisement on a web page.
Specimen File1

The applicant claims ownership of U.S. Registration Number(s) 4080761.

The applicant's current Attorney Information:
Thomas J. Moore and Eugene Mar, Richard E. Fichter, Felix J. D'Ambrosio, Justin J. Cassell, and John R. Schaefer of BACON & THOMAS, PLLC
625 Slaters Lane, Fourth Floor
Alexandria, Virginia 22314-1176
United States
The attorney docket/reference number is MAGN6029/TJM.

The applicant's current Correspondence Information:
Thomas J. Moore
BACON & THOMAS, PLLC
625 Slaters Lane, Fourth Floor
Alexandria, Virginia 22314-1176

703-683-0500(phone)
703-683-1080(fax)
mail@baconthomas.com (authorized)

A fee payment in the amount of $650 has been submitted with the application, representing payment for 2 class(es).

Declaration

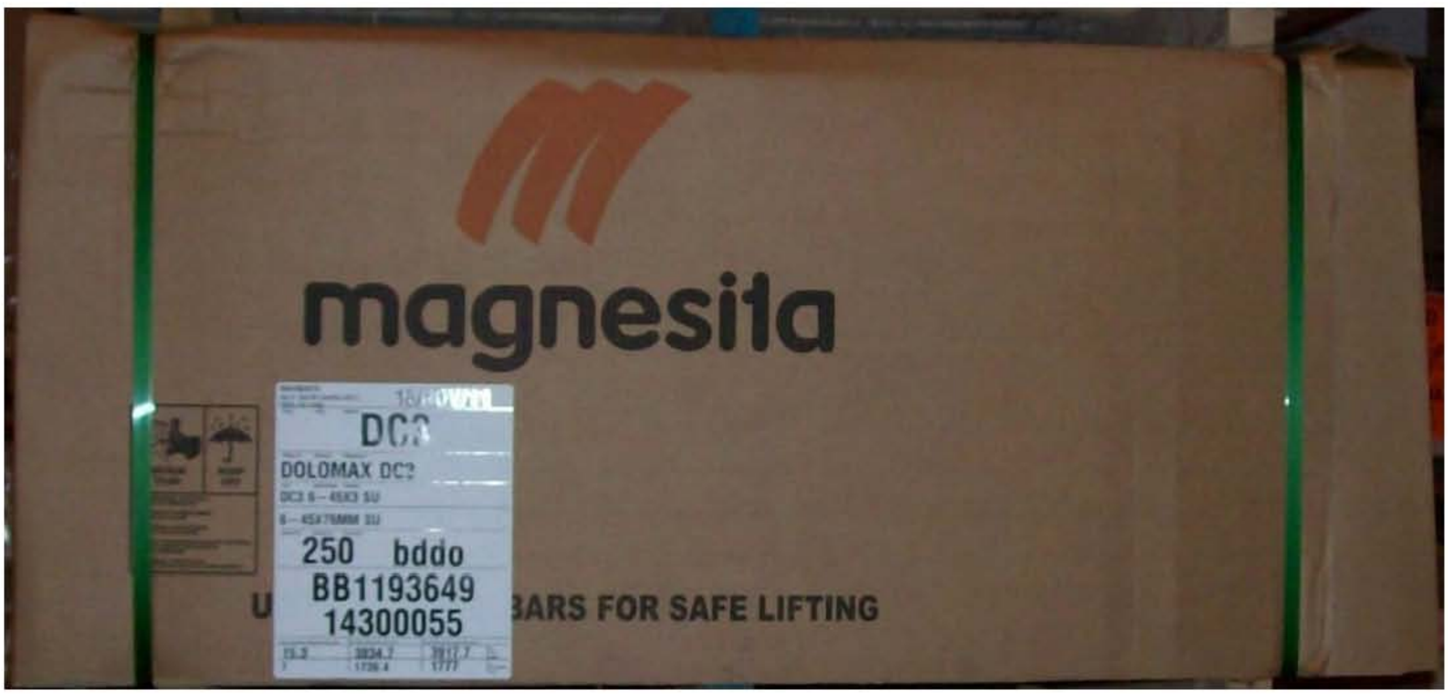
The undersigned, being hereby warned that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. Section 1001, and that such willful false statements, and the like, may jeopardize the validity of the application or any resulting registration, declares that he/she is properly authorized to execute this application on behalf of the applicant; he/she believes the applicant to be the owner of the trademark/service mark sought to be registered, or, if the application is being filed under 15 U.S.C. Section 1051(b), he/she believes applicant to be entitled to use such mark in commerce; to the best of his/her knowledge and belief no other person, firm, corporation, or association has the right to use the mark in commerce, either in the identical form thereof or in such near resemblance thereto as to be likely, when used on or in connection with the goods/services of such other person, to cause confusion, or to cause mistake, or to deceive; and that all statements made of his/her own knowledge are true; and that all statements made on information and belief are believed to be true.

Declaration Signature

Signature: /Thomas J. Moore/ Date: 01/28/2013
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member
RAM Sale Number: 4755
RAM Accounting Date: 01/29/2013

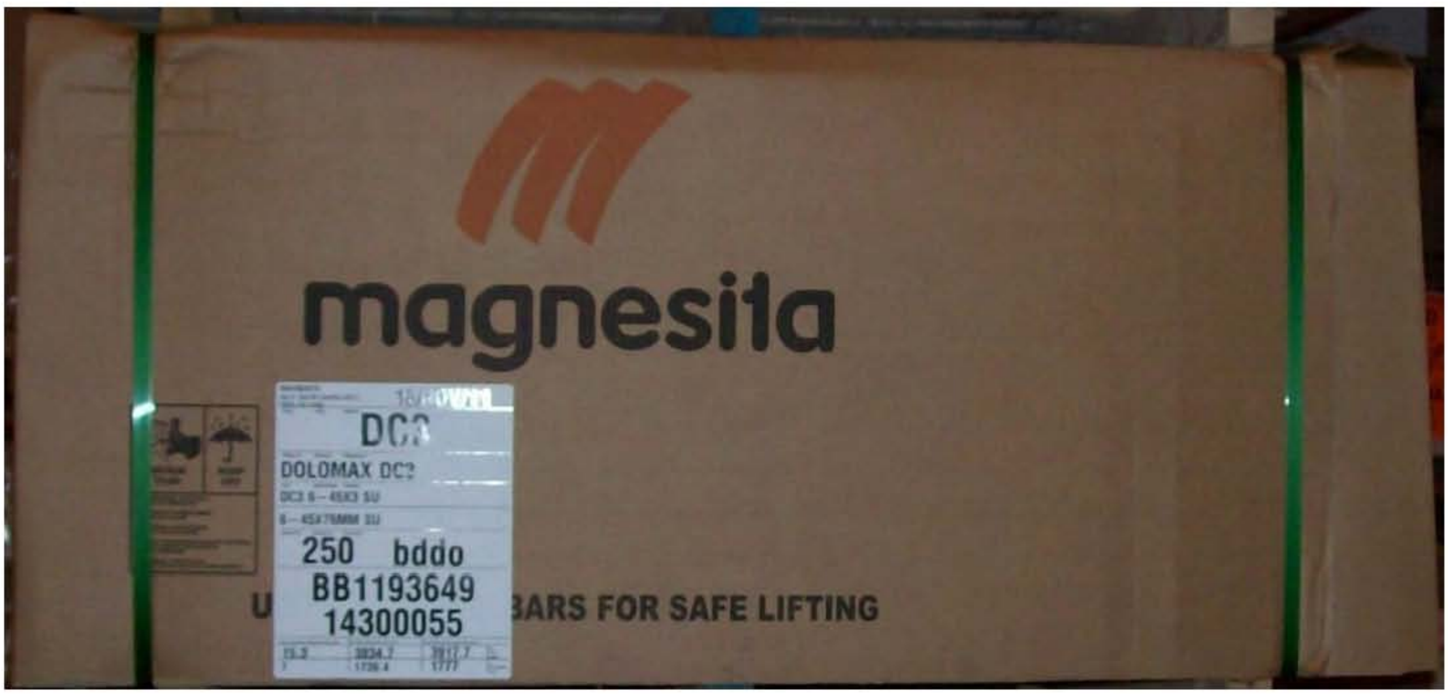
Serial Number: 85834316
Internet Transmission Date: Mon Jan 28 17:13:06 EST 2013
TEAS Stamp: USPTO/BAS-XXX.XX.XXX.XX-2013012817130605
6359-85834316-490607b17782b363bc18ae5b77
ac794ec0-CC-4755-20130128162721743038

MAGNESITA


magnesita
250 bddo
BB1193649
14300055
BARS FOR SAFE LIFTING


Home | Magnesita - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Home | Magnesita
www.magnesita.com/en/home
Search the web (Babylon)
magnesita
SEARCH:
SEARCH
› COMPANY
› REFRACTORY SOLUTIONS
› SERVICE SOLUTIONS
› MINERALS
› TECHNICAL SUPPORT DEPARTMENT
› RESEARCH AND DEVELOPMENT CENTER
› PEOPLE
SOLUTIONS ON REFRACTORY, SERVICES AND RAW MATERIALS.
Magnesita offers complete solutions to its customers.
Investidor |
Fornecedor |
Cliente |
Contact Us
Site Map
© Copyright 2010 - Magnesita. All rights reserved.
| Magnesita Refratários S.A.
| Praça Louis Ensch, 240
| CEP: 32210-902
| Contagem . MG . Brasil
MAGNESITA SOLUTIONS
Conheça as soluções que a Magnesita oferece em produtos refratários, para os mais diversos usos industriais.
INNOVATION
RESEARCH CENTER
TECHNICAL SUPPORT
Tecnologia de ponta e suporte técnico especializado, a serviço da otimização dos processos produtivos de nossos clientes.
INVESTOR
Acesse também o site de Relacionamento com o Investidor para informações corporativas completas sobre a Magnesita e seus resultados.
4:44 PM
1/28/2013

MAGNESITA


magnesita
DOLOMAX DC3
250 bddo
BB1193649
14300055
BARS FOR SAFE LIFTING


Home | Magnesita - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Home | Magnesita
www.magnesita.com/en/home
Search the web (Babylon)
magnesita
SEARCH:
SEARCH
› COMPANY
› REFRACTORY SOLUTIONS
› SERVICE SOLUTIONS
› MINERALS
› TECHNICAL SUPPORT DEPARTMENT
› RESEARCH AND DEVELOPMENT CENTER
› PEOPLE
SOLUTIONS ON REFRACTORY, SERVICES AND RAW MATERIALS.
Magnesita offers complete solutions to its customers.
MAGNESITA SOLUTIONS
Conheça as soluções que a Magnesita oferece em produtos refratários, para os mais diversos usos industriais.
INNOVATION
RESEARCH CENTER
TECHNICAL SUPPORT
Tecnologia de ponta e suporte técnico especializado, a serviço da otimização dos processos produtivos de nossos clientes.
INVESTOR
Acesse também o site de Relacionamento com o Investidor para informações corporativas completas sobre a Magnesita e seus resultados.
Investidor |
Fornecedor |
Cliente |
Contact Us
Site Map
© Copyright 2010 - Magnesita. All rights reserved.
Desenvolvido por:
| Magnesita Refratários S.A.
| Praça Louis Ensch, 240
| CEP: 32210-902
| Contagem . MG . Brasil
4:44 PM
1/28/2013

PTO Form 1960 (Rev 9/2007)
OMB No. 0651-0050 (Exp. 07/31/2017)

Request for Reconsideration after Final Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	77873477
LAW OFFICE ASSIGNED	LAW OFFICE 111
MARK SECTION	
MARK	http://tess2.uspto.gov/ImageAgent/ImageAgentProxy?getImage=77873477
LITERAL ELEMENT	MAGNESITA
STANDARD CHARACTERS	YES
USPTO-GENERATED IMAGE	YES
MARK STATEMENT	The mark consists of standard characters, without claim to any particular font style, size or color.
ARGUMENT(S)	
Please amend the application to claim "acquired distinctiveness" under Section 2(f). The mark has been in substantially exclusive and continuous use in commerce in the United States by Applicant and related companies as a trademark and service mark, from a date at least as early as October 1, 2010, through the undersigned date. The mark is used not just in the United States, but worldwide. This includes use of the mark at the magnesita.com website (see Exhibit 1 submitted herewith). International Registration No. 1050641 covers numerous countries (see Exhibits 2 and 3 submitted herewith). The present amendment to Section 2(f) is fully responsive to the final Office Action, and if the Office considers the existing evidence of acquired distinctiveness to be inadequate, then a new, non-final Office Action should be issued. TMEP §1212.02(h), third paragraph (October, 2012). "The mere assertion of distinctiveness under §2(f) raises a new issue. See In re Educational Communications, Inc., 231 USPQ 787, 787 n.2 (TTAB 1986). TMEP §1212.02(h), fourth paragraph (October, 2012). Applicant submits that the evidence of acquired distinctiveness is sufficient to approve the Section 2(f) claim. Applicant submits that the application should be approved for publication.	
EVIDENCE SECTION	
DESCRIPTION OF EVIDENCE FILE	Exhibits 1, 2 and 3 to the Request for Reconsideration
ADDITIONAL STATEMENTS SECTION	
SECTION 2(f) Claim of Acquired Distinctiveness, BASED ON EVIDENCE	The mark has become distinctive of the goods/services, as demonstrated by the attached evidence.
2(f) EVIDENCE FILE NAME(S)	
ORIGINAL PDF FILE	e2f-1731015681-095154347_._2013-02-22_Exhibit_1_-_home_page_from_magnesita.com_website.pdf
CONVERTED PDF FILE(S) (1 page)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml4\RFR0002.JPG
ORIGINAL PDF FILE	e2f-1731015681-095154347_.__Reg._No._1050641_of_mark_magnesita_and_Design__3_arcs_logo_.pdf
CONVERTED PDF FILE(S) (1 page)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml4\RFR0003.JPG

ORIGINAL PDF FILE	e2f-1731015681-095154347_._ls_for_IR_1050641_of_mark_magnesita_and_Design__3_arcs_logo_.pdf
CONVERTED PDF FILE(S) (8 pages)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml4\RFR0004.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml4\RFR0005.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml4\RFR0006.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml4\RFR0007.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml4\RFR0008.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml4\RFR0009.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml4\RFR0010.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml4\RFR0011.JPG
SIGNATURE SECTION	
DECLARATION SIGNATURE	/Thomas J. Moore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
SIGNATORY'S PHONE NUMBER	703-683-0500
DATE SIGNED	02/22/2013
RESPONSE SIGNATURE	/Thomas J. Moore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
SIGNATORY'S PHONE NUMBER	703-683-0500
DATE SIGNED	02/22/2013
AUTHORIZED SIGNATORY	YES
CONCURRENT APPEAL NOTICE FILED	NO
FILING INFORMATION SECTION	
SUBMIT DATE	Fri Feb 22 09:57:23 EST 2013
TEAS STAMP	USPTO/RFR-XXX.XX.XXX.XX-2 0130222095723336851-77873 477-50098bcdd4db914aae451 f9a21791b5c38e8b6214bc418 82ca90aa9bdaf33260-N/A-N/ A-20130222095154347074

PTO Form 1960 (Rev 9/2007)
OMB No. 0651-0050 (Exp. 07/31/2017)

Request for Reconsideration after Final Action

To the Commissioner for Trademarks:

Application serial no. **77873477** MAGNESITA(Standard Characters, see http://tess2.uspto.gov/ImageAgent/ImageAgentProxy?getImage=77873477) has been amended as follows:

ARGUMENT(S)
In response to the substantive refusal(s), please note the following:

Please amend the application to claim "acquired distinctiveness" under Section 2(f). The mark has been in substantially exclusive and continuous use in commerce in the United States by Applicant and related companies as a trademark and service mark, from a date at least as early as October 1, 2010, through the undersigned date. The mark is used not just in the United States, but worldwide. This includes use of the mark at the magnesita.com website (see Exhibit 1 submitted herewith). International Registration No. 1050641 covers numerous countries (see Exhibits 2 and 3 submitted herewith).

The present amendment to Section 2(f) is fully responsive to the final Office Action, and if the Office considers the existing evidence of acquired distinctiveness to be inadequate, then a new, non-final Office Action should be issued. TMEP §1212.02(h), third paragraph (October, 2012).

> "The mere assertion of distinctiveness under §2(f) raises a new issue. See In re Educational Communications, Inc., 231 USPQ 787, 787 n.2 (TTAB 1986).

TMEP §1212.02(h), fourth paragraph (October, 2012). Applicant submits that the evidence of acquired distinctiveness is sufficient to approve the Section 2(f) claim.

Applicant submits that the application should be approved for publication.

EVIDENCE
Evidence in the nature of Exhibits 1, 2 and 3 to the Request for Reconsideration has been attached.

ADDITIONAL STATEMENTS
SECTION 2(f) Claim of Acquired Distinctiveness, BASED ON EVIDENCE
The mark has become distinctive of the goods/services, as demonstrated by the attached evidence.

Original PDF file:
e2f-1731015681-095154347_._2013-02-22_Exhibit_1_-_home_page_from_magnesita.com_website.pdf
Converted PDF file(s) (1 page)
2(f) evidence-1
Original PDF file:
e2f-1731015681-095154347_._Reg._No._1050641_of_mark_magnesita_and_Design__3_arcs_logo_.pdf
Converted PDF file(s) (1 page)
2(f) evidence-1
Original PDF file:
e2f-1731015681-095154347_._ls_for_IR_1050641_of_mark_magnesita_and_Design__3_arcs_logo_.pdf
Converted PDF file(s) (8 pages)
2(f) evidence-1
2(f) evidence-2
2(f) evidence-3
2(f) evidence-4
2(f) evidence-5
2(f) evidence-6
2(f) evidence-7
2(f) evidence-8

SIGNATURE(S)
Declaration Signature
If the applicant is seeking registration under Section 1(b) and/or Section 44 of the Trademark Act, the applicant has had a bona fide intention to use or use through the applicant's related company or licensee the mark in commerce on or in connection with the identified goods and/or services as of the filing date of the application. 37 C.F.R. Secs. 2.34(a)(2)(i); 2.34 (a)(3)(i); and 2.34(a)(4)(ii); and/or the applicant has had a bona fide intention to exercise legitimate control over the use of the mark in commerce by its members. 37 C.F. R. Sec. 2.44. If the applicant is seeking registration under Section 1(a) of the Trademark Act, the mark was in use in commerce on or in connection with the goods and/or services listed in the application as of the application filing date or as of the date of any submitted allegation of use. 37 C.F.R. Secs. 2.34(a)(1)(i); and/or the applicant has exercised legitimate control over the use of the mark in commerce by its members. 37 C.F.R. Sec. 2.44. The undersigned, being

hereby warned that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. Section 1001, and that such willful false statements may jeopardize the validity of the application or any resulting registration, declares that he/she is properly authorized to execute this application on behalf of the applicant; he/she believes the applicant to be the owner of the trademark/service mark sought to be registered, or, if the application is being filed under 15 U.S.C. Section 1051(b), he/she believes applicant to be entitled to use such mark in commerce; to the best of his/her knowledge and belief no other person, firm, corporation, or association has the right to use the mark in commerce, either in the identical form thereof or in such near resemblance thereto as to be likely, when used on or in connection with the goods/services of such other person, to cause confusion, or to cause mistake, or to deceive; that if the original application was submitted unsigned, that all statements in the original application and this submission made of the declaration signer's knowledge are true; and all statements in the original application and this submission made on information and belief are believed to be true.

Signature: /Thomas J. Moore/ Date: 02/22/2013
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member
Signatory's Phone Number: 703-683-0500

Request for Reconsideration Signature
Signature: /Thomas J. Moore/ Date: 02/22/2013
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member

Signatory's Phone Number: 703-683-0500

The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

The applicant is not filing a Notice of Appeal in conjunction with this Request for Reconsideration.

Serial Number: 77873477
Internet Transmission Date: Fri Feb 22 09:57:23 EST 2013
TEAS Stamp: USPTO/RFR-XXX.XX.XXX.XX-2013022209572333
6851-77873477-50098bcdd4db914aae451f9a21
791b5c38e8b6214bc41882ca90aa9bdaf33260-N
/A-N/A-20130222095154347074


Home | Magnesita - Windows Internet Explorer
http://www.magnesita.com/en/home
File Edit View Favorites Tools Help
Favorites
Query
Home | Magnesita
Page Safety Tools
magnesita
SEARCH:
SEARCH
COMPANY
REFRACTORY SOLUTIONS
SERVICE SOLUTIONS
MINERALS
TECHNICAL SUPPORT DEPARTMENT
RESEARCH AND DEVELOPMENT CENTER
PEOPLE
MAGNESITA IS THE MOST INTEGRATED REFRACTORY INDUSTRY IN THE WORLD.
Over 70% of the raw material used in production is taken from its own mines.
MAGNESITA SOLUTIONS
Conheça as soluções que a Magnesita oferece em produtos refratários, para os mais diversos usos industriais.
INNOVATION
RESEARCH CENTER
TECHNICAL SUPPORT
Tecnologia de ponta e suporte técnico especializado, a serviço da otimização dos processos produtivos de nossos clientes.
Investidor | Fornecedor | Cliente |
Contact Us
Site Map
© Copyright 2010 - Magnesita. All rights reserved.
Desenvolvido por:
| Magnesita Refratários S.A.
| Praça Louis Ensch, 240
| CEP: 32210-902
| Contagem . MG . Brasil
INVESTOR
Acesse também o site de Relacionamento com o Investidor para informações corporativas completas sobre a Magnesita e seus resultados.
Internet | Protected Mode: On
100%
7:38 AM
2/22/2013

WORLD INTELLECTUAL
PROPERTY ORGANIZATION

34, chemin des Colombettes, P.O. Box 18, CH-1211 Geneva 20 (Switzerland)
Tel.: (41-22) 338 9111 - Facsimile (International Registry of Marks): (41-22) 740 1429
E-mail: intreg.mail@wipo.int - Internet: http://www.wipo.int

MADRID AGREEMENT AND PROTOCOL

CERTIFICATE OF REGISTRATION

The International Bureau of the World Intellectual Property Organization (WIPO) certifies that the indications appearing in the present certificate conform to the recording made in the International Register of Marks maintained under the Madrid Agreement and Protocol.

Juan Antonio Toledo
Senior Director
The International Registries of Madrid and Lisbon

Geneva, October 14, 2010

---

1 050 641

Registration date: **June 25, 2010**
Date next payment due: **June 25, 2020**

Magnesita Refractories Company
425 S. Salem Church Rd.
York, PA 17408
(United States of America).

Legal nature of the holder (legal entity) and place of organization: CORPORATION, Pennsylvania, United States.

Name and address of the representative: Thomas J. Moore BACON & THOMAS, PLLC, 625 Slaters Lane, Fourth Floor, Alexandria, VA 22314-1176 (United States of America).

magnesita

Classification of figurative elements:
26.11.

Description of the mark: The mark consists of "magnesita" and a design of 3 arcs.

List of goods and services - NCL(9):

19 Refractory products not primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes.

35 On-line wholesale and retail store services featuring refractory products.

37 Providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus.

Basic application: United States of America, 03.05.2010, 85028429.

Data relating to priority under the Paris Convention: United States of America, 03.05.2010, 85028429; classes 19 *priority limited to:* refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes, 35 *priority limited to:* on-line wholesale and retail store services featuring refractory products, 37 *priority limited to:* providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus

Designations under the Madrid Protocol: Australia, Bosnia and Herzegovina, Bulgaria, China, Croatia, Cuba, Czech Republic, Egypt, European Union, Japan, Montenegro, Morocco, Norway, Republic of Korea, Russian Federation, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine.

Date of notification: 14.10.2010

Language of the international application: English

WIPO - ROMARIN - International Registration Details

1050641 22.2.2013

151 **Date of the registration**
25.06.2010

180 **Expected expiration date of the registration/renewal**
25.06.2020

270 **Language of the application**
English

Current Status

732 **Name and address of the holder of the registration**
Magnesita Refractories Company 425 S. Salem Church Rd. York, PA 17408 United States of America

812 **Contracting State or Contracting Organization in the territory of which the holder has a real and effective industrial or commercial establishment**
US (United States of America)

842 **Legal nature of the holder (legal entity) and State, and, where applicable, territory within that State where the legal entity is organized**
CORPORATION, Pennsylvania, United States

740 **Name and address of the representative**
Thomas J. Moore BACON & THOMAS, PLLC 625 Slaters Lane, Fourth Floor Alexandria, VA 22314-1176 United States of America

540 **Mark**

531 **International Classification of the Figurative Elements of Marks (Vienna Classification) - VCL(6)**
26.11.12

571 **Description of the mark**
The mark consists of "magnesita" and a design of 3 arcs.
La marque consiste en l'élément verbal "magnesita" et en un dessin de trois arcs.
La marca consiste en la palabra "magnesita" y el diseño de tres arcos.

511 **International Classification of Goods and Services for the Purposes of the Registration of Marks (Nice Classification) - NCL(9)**

19 Refractory products not primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes.

35 On-line wholesale and retail store services featuring refractory products.

37 Providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus.

821 **Basic application**
US (United States of America), 03.05.2010, 85028429

300 **Data relating to priority under the Paris Convention and other data relating to registration of the mark in the country of origin**
US (United States of America), 03.05.2010, 85028429
19 refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes
35 on-line wholesale and retail store services featuring refractory products
37 providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus

832 **Designation(s) under the Madrid Protocol**
AU (Australia), BA (Bosnia and Herzegovina), BG (Bulgaria), CH (Switzerland), CN (China), CO (Colombia), CU (Cuba), CZ (Czech Republic), EG (Egypt), EM (European Community), HR (Croatia), IL (Israel), JP (Japan), KR (Republic of Korea), MA (Morocco), ME (Montenegro), MK (The former Yugoslav Republic of Macedonia), NO (Norway), RS (Serbia), RU (Russian Federation), TR (Turkey), UA (Ukraine)

Registration

450 **Publication number and date**
2010/39 Gaz, 21.10.2010

832 **Designation(s) under the Madrid Protocol**
AU (Australia), BA (Bosnia and Herzegovina), BG (Bulgaria), CH (Switzerland), CN (China), CU (Cuba), CZ (Czech Republic), EG (Egypt), EM (European Community), HR (Croatia), JP (Japan), KR (Republic of Korea), MA (Morocco), ME (Montenegro), MK (The former Yugoslav Republic of Macedonia), NO (Norway), RS (Serbia), RU (Russian Federation), TR (Turkey), UA (Ukraine)

580 **Date of recording (date of notification from which the time limit to notify the refusal starts)**
14.10.2010

The refusal period has expired and no notification of provisional refusal has been recorded (application of Rule 5 preserved)
CU (Cuba)

The refusal period has expired and no notification of provisional refusal has been recorded (application of Rule 5 preserved)
EG (Egypt)

The refusal period has expired and no notification of provisional refusal has been recorded (application of Rule 5 preserved)
MA (Morocco)

The refusal period has expired and no notification of provisional refusal has been recorded (application of Rule 5 preserved)
MK (The former Yugoslav Republic of Macedonia)

Subsequent designation

450 **Publication number and date**
2010/44 Gaz, 25.11.2010

832 **Designation(s) under the Madrid Protocol**
IL (Israel)

580 **Date of recording (date of notification from which the time limit to notify the refusal starts)**
18.11.2010

891 **Date of subsequent designation (Rule 24(6) of the Common Regulations)**
18.10.2010

Ex Officio examination completed but opposition or observations by third parties still possible, under Rule 18bis(1)

EM (European Community)

450 **Publication number and date**
2010/44 Gaz, 25.11.2010

Opposition end date
15.07.2011

Ex Officio examination completed but opposition or observations by third parties still possible, under Rule 18bis(1)

TR (Turkey)

450 **Publication number and date**
2011/5 Gaz, 24.02.2011

Opposition end date
12.04.2011

861 Total provisional refusal of protection

JP (Japan)

450 **Publication number and date**
2011/3 Gaz, 10.02.2011

Date of notification
03.02.2011

Date of receipt by the International Bureau
20.01.2011

Ex Officio examination completed but opposition or observations by third parties still possible, under Rule 18bis(1)

NO (Norway)

450 **Publication number and date**
2011/4 Gaz, 17.02.2011

Opposition end date
26.04.2011

Statement of grant of protection made under Rule 18ter(1)

AU (Australia)

450 **Publication number and date**
2011/7 Gaz, 10.03.2011

Statement of grant of protection made under Rule 18ter(1)

IL (Israel)

450 **Publication number and date**
2011/17 Gaz, 19.05.2011

862 Partial provisional refusal of protection

BG (Bulgaria)

450 **Publication number and date**

2011/20 Gaz, 09.06.2011

862 **Partial provisional refusal of protection**

As from November 14, 2005, provisional refusals indicate only whether they are total or partial, without listing the goods and services, or the classes, affected or not affected.

Date of notification

19.05.2011

Date of receipt by the International Bureau

10.05.2011

Statement of grant of protection made under Rule 18ter(1)

NO (Norway)

450 **Publication number and date**

2011/21 Gaz, 16.06.2011

861 Total provisional refusal of protection

KR (Republic of Korea)

450 **Publication number and date**

2011/22 Gaz, 23.06.2011

Date of notification

16.06.2011

Date of receipt by the International Bureau

01.06.2011

Ex Officio examination completed but opposition or observations by third parties still possible, under Rule 18bis(1)

UA (Ukraine)

450 **Publication number and date**

2011/23 Gaz, 30.06.2011

Opposition end date

09.09.2011

Statement indicating the goods and services for which protection of the mark is granted under Rule 18ter(2)(ii)

JP (Japan)

450 **Publication number and date**

2013/6 Gaz, 28.02.2013

List limited to:

35 On-line wholesale and retail store services for refractory products.

Accepted for all the goods and/or services in classes 19 and 37.

Date of notification

21.02.2013

Date of receipt by the International Bureau

07.07.2011

861 Total provisional refusal of protection

RU (Russian Federation)
450 **Publication number and date**
2011/31 Gaz, 25.08.2011
Date of notification
18.08.2011
Date of receipt by the International Bureau
27.07.2011

Statement of grant of protection made under Rule 18ter(1)
HR (Croatia)
450 **Publication number and date**
2011/33 Gaz, 08.09.2011

Statement of grant of protection made under Rule 18ter(1)
EM (European Community)
450 **Publication number and date**
2011/33 Gaz, 08.09.2011

862 Partial provisional refusal of protection
CN (China)
450 **Publication number and date**
2011/36 Gaz, 29.09.2011
862 **Partial provisional refusal of protection**
This provisional refusal is not subject to review or appeal before this Office. It is deemed to include a declaration of statement of grant of protection indicating the goods and services for which protection of the mark is granted under Rule 18ter(2)(ii). All the goods or services affected are therefore indicated.
Refused for all the services in class 35.
Date of notification
22.09.2011
Date of receipt by the International Bureau
16.08.2011

Statement of grant of protection made under Rule 18ter(1)
UA (Ukraine)
450 **Publication number and date**
2011/37 Gaz, 06.10.2011

862 Partial provisional refusal of protection
CZ (Czech Republic)
450 **Publication number and date**
2011/38 Gaz, 13.10.2011
862 **Partial provisional refusal of protection**
As from November 14, 2005, provisional refusals indicate only whether they are total or partial, without listing the goods and services, or the classes, affected or not affected.
Date of notification
22.09.2011

Date of receipt by the International Bureau
06.09.2011

Statement of grant of protection made under Rule 18ter(1)

RS (Serbia)

450 Publication number and date
2011/40 Gaz, 27.10.2011

Statement of grant of protection made under Rule 18ter(1)

CH (Switzerland)

450 Publication number and date
2011/41 Gaz, 03.11.2011

Statement of grant of protection made under Rule 18ter(1)

BA (Bosnia and Herzegovina)

450 Publication number and date
2011/42 Gaz, 10.11.2011

Statement of grant of protection following a provisional refusal under Rule 18ter(2)(i)

BG (Bulgaria)

450 Publication number and date
2011/45 Gaz, 01.12.2011

Date of notification
11.11.2011

Date of receipt by the International Bureau
24.10.2011

Statement of grant of protection made under Rule 18ter(1)

ME (Montenegro)

450 Publication number and date
2011/45 Gaz, 01.12.2011

Statement indicating the goods and services for which protection of the mark is granted under Rule 18ter(2)(ii)

KR (Republic of Korea)

450 Publication number and date
2012/2 Gaz, 02.02.2012

List limited to:

19 Refractory products not primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces (construction materials, not primarily of metal), refractory furnace patching and repair mixes (construction materials, not primarily of metal).

35 On-line wholesale and retail store services featuring refractory products.

37 Providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus.

Date of notification

26.01.2012
Date of receipt by the International Bureau
11.01.2012

Confirmation of total provisional refusal under Rule 18ter(3)

RU (Russian Federation)
450 Publication number and date
2012/24 Gaz, 05.07.2012

Statement of grant of protection following a provisional refusal under Rule 18ter(2)(i)

CZ (Czech Republic)
450 Publication number and date
2012/34 Gaz, 13.09.2012
Date of notification
27.08.2012
Date of receipt by the International Bureau
31.07.2012

823 Cancellation effected for some of the goods and services at the request of an Office of origin in accordance with Article 6(4) of the Agreement or Article 6(4) of the Protocol

450 Publication number and date
2012/36 Gaz, 27.09.2012
Class 35 is cancelled.
List limited to:
37 Providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus, namely high temperature furnaces and industrial kilns.
Class 19 remains unchanged.
Facts and decisions
Basic application number 85028429 was registered by the USPTO on January 3, 2012, having U.S. Registration Number 4080761. The list of goods and services has been limited.
La demande de base numéro 85028429 a été enregistrée le 3 janvier 2012, par l'Office des brevets et des marques des Etats-Unis d'Amérique, sous le numéro d'enregistrement américain 4080761. La liste de produits et services a fait l'objet d'une limitation.
La solicitud de base número 85028429 fue registrada por la USPTO el 3 de enero de 2012 con el número de registro 4080761. La lista de productos y servicios ha sido objeto de limitación.

Subsequent designation

450 Publication number and date
2013/2 Gaz, 31.01.2013
832 Designation(s) under the Madrid Protocol
CO (Colombia)
851 Limitation of the list of goods and services
CO (Colombia)
The subsequent designation is only for classes 19 and 37.

580 **Date of recording (date of notification from which the time limit to notify the refusal starts)**
24.01.2013

891 **Date of subsequent designation (Rule 24(6) of the Common Regulations)**
29.08.2012

Statement of grant of protection made under Rule 18ter(1)

TR (Turkey)

450 **Publication number and date**
2013/2 Gaz, 31.01.2013

Trademark Snap Shot Amendment & Mail Processing Stylesheet
(Table presents the data on Amendment & Mail Processing Complete)

OVERVIEW

SERIAL NUMBER	77873477	FILING DATE	11/16/2009
REG NUMBER	0000000	REG DATE	N/A
REGISTER	PRINCIPAL	MARK TYPE	TRADEMARK
INTL REG #	N/A	INTL REG DATE	N/A
TM ATTORNEY	LEHKER, DAWN FELDMAN	L.O. ASSIGNED	111

PUB INFORMATION

RUN DATE	02/23/2013
PUB DATE	N/A
STATUS	645-FINAL REFUSAL - MAILED
STATUS DATE	08/28/2012
LITERAL MARK ELEMENT	MAGNESITA

DATE ABANDONED	N/A	DATE CANCELLED	N/A
SECTION 2F	YES	SECTION 2F IN PART	NO
SECTION 8	NO	SECTION 8 IN PART	NO
SECTION 15	NO	REPUB 12C	N/A
RENEWAL FILED	NO	RENEWAL DATE	N/A
DATE AMEND REG	N/A		

FILING BASIS

FILED BASIS		CURRENT BASIS		AMENDED BASIS	
1 (a)	NO	1 (a)	YES	1 (a)	NO
1 (b)	YES	1 (b)	NO	1 (b)	NO
44D	NO	44D	NO	44D	NO
44E	NO	44E	NO	44E	NO
66A	NO	66A	NO		
NO BASIS	NO	NO BASIS	NO		

MARK DATA

STANDARD CHARACTER MARK	YES
LITERAL MARK ELEMENT	MAGNESITA
MARK DRAWING CODE	4-STANDARD CHARACTER MARK
COLOR DRAWING FLAG	NO

CURRENT OWNER INFORMATION

PARTY TYPE	11-SUBSEQUENT OWNER BEFORE PUBLICATION
NAME	MAGNESITA REFRACTORIES COMPANY
ADDRESS	425 S. Salem Church Rd. YORK, PA 17408
ENTITY	03-CORPORATION

CITIZENSHIP	Pennsylnania

GOODS AND SERVICES

INTERNATIONAL CLASS	019
DESCRIPTION TEXT	Refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes
INTERNATIONAL CLASS	037
DESCRIPTION TEXT	Providing information via a global computer network on constructing, maintaining, and repairing refractory apparatus using refractory products

GOODS AND SERVICES CLASSIFICATION

INTERNATIONAL CLASS	019	FIRST USE DATE	10/01/2010	FIRST USE IN COMMERCE DATE	10/01/2010	CLASS STATUS	6-ACTIVE
INTERNATIONAL CLASS	037	FIRST USE DATE	05/05/2011	FIRST USE IN COMMERCE DATE	05/05/2011	CLASS STATUS	6-ACTIVE

MISCELLANEOUS INFORMATION/STATEMENTS

CHANGE IN REGISTRATION	NO
TRANSLATION	The English translation of "MAGNESITA" is magnesia or magnesite.

PROSECUTION HISTORY

DATE	ENT CD	ENT TYPE	DESCRIPTION	ENT NUM
02/22/2013	TEME	I	TEAS/EMAIL CORRESPONDENCE ENTERED	064
02/22/2013	CRFA	I	CORRESPONDENCE RECEIVED IN LAW OFFICE	063
02/22/2013	ERFR	I	TEAS REQUEST FOR RECONSIDERATION RECEIVED	062
08/28/2012	GNFN	O	NOTIFICATION OF FINAL REFUSAL EMAILED	061
08/28/2012	GNFR	O	FINAL REFUSAL E-MAILED	060
08/28/2012	CNFR	R	FINAL REFUSAL WRITTEN	059
07/27/2012	TEME	I	TEAS/EMAIL CORRESPONDENCE ENTERED	058
07/26/2012	CRFA	I	CORRESPONDENCE RECEIVED IN LAW OFFICE	057
07/26/2012	TROA	I	TEAS RESPONSE TO OFFICE ACTION RECEIVED	056
02/01/2012	GNRN	O	NOTIFICATION OF NON-FINAL ACTION E-MAILED	055
02/01/2012	GNRT	O	NON-FINAL ACTION E-MAILED	054
02/01/2012	CNRT	R	NON-FINAL ACTION WRITTEN	053
01/12/2012	TEME	I	TEAS/EMAIL CORRESPONDENCE ENTERED	052
01/12/2012	CRFA	I	CORRESPONDENCE RECEIVED IN LAW OFFICE	051
01/12/2012	ERFR	I	TEAS REQUEST FOR RECONSIDERATION RECEIVED	050
01/09/2012	GNS1	O	NOTIFICATION OF SUBSEQUENT FINAL EMAILED	049
01/09/2012	GNSF	O	SUBSEQUENT FINAL EMAILED	048
01/09/2012	CFRC	R	SUBSEQUENT FINAL REFUSAL WRITTEN	047
12/16/2011	TEME	I	TEAS/EMAIL CORRESPONDENCE ENTERED	046
12/15/2011	CRFA	I	CORRESPONDENCE RECEIVED IN LAW OFFICE	045
12/15/2011	TROA	I	TEAS RESPONSE TO OFFICE ACTION RECEIVED	044
06/24/2011	AAUA	E	NOTICE OF ACCEPTANCE OF AMENDMENT TO ALLEGE USE E-MAILED	043

06/23/2011	GNRN	O	NOTIFICATION OF NON-FINAL ACTION E-MAILED	042
06/23/2011	GNRT	O	NON-FINAL ACTION E-MAILED	041
06/23/2011	IUAA	P	USE AMENDMENT ACCEPTED	040
06/23/2011	CNRT	R	NON-FINAL ACTION WRITTEN	039
06/20/2011	AUPC	I	AMENDMENT TO USE PROCESSING COMPLETE	038
06/13/2011	IUAF	S	USE AMENDMENT FILED	037
06/13/2011	EAAU	I	TEAS AMENDMENT OF USE RECEIVED	036
06/13/2011	TEME	I	TEAS/EMAIL CORRESPONDENCE ENTERED	035
06/13/2011	CRFA	I	CORRESPONDENCE RECEIVED IN LAW OFFICE	034
06/13/2011	ERFR	I	TEAS REQUEST FOR RECONSIDERATION RECEIVED	033
05/27/2011	GNFN	O	NOTIFICATION OF FINAL REFUSAL EMAILED	032
05/27/2011	GNFR	O	FINAL REFUSAL E-MAILED	031
05/27/2011	CNFR	R	FINAL REFUSAL WRITTEN	030
04/29/2011	TEME	I	TEAS/EMAIL CORRESPONDENCE ENTERED	029
04/29/2011	CRFA	I	CORRESPONDENCE RECEIVED IN LAW OFFICE	028
04/29/2011	TROA	I	TEAS RESPONSE TO OFFICE ACTION RECEIVED	027
11/05/2010	GNRN	O	NOTIFICATION OF NON-FINAL ACTION E-MAILED	026
11/05/2010	GNRT	O	NON-FINAL ACTION E-MAILED	025
11/05/2010	CNRT	R	NON-FINAL ACTION WRITTEN	024
09/27/2010	TEME	I	TEAS/EMAIL CORRESPONDENCE ENTERED	023
09/27/2010	CRFA	I	CORRESPONDENCE RECEIVED IN LAW OFFICE	022
09/27/2010	TROA	I	TEAS RESPONSE TO OFFICE ACTION RECEIVED	021
03/30/2010	GNRN	O	NOTIFICATION OF NON-FINAL ACTION E-MAILED	020
03/30/2010	GNRT	O	NON-FINAL ACTION E-MAILED	019
03/30/2010	CNRT	R	NON-FINAL ACTION WRITTEN	018
03/30/2010	ZZZX	Z	PREVIOUS ALLOWANCE COUNT WITHDRAWN	017
03/30/2010	CNSA	P	APPROVED FOR PUB - PRINCIPAL REGISTER	016
03/30/2010	XAEC	I	EXAMINER'S AMENDMENT ENTERED	015
03/30/2010	GNEN	O	NOTIFICATION OF EXAMINERS AMENDMENT E-MAILED	014
03/30/2010	GNEA	O	EXAMINERS AMENDMENT E-MAILED	013
03/30/2010	CNEA	R	EXAMINERS AMENDMENT -WRITTEN	012
03/26/2010	TEME	I	TEAS/EMAIL CORRESPONDENCE ENTERED	011
03/26/2010	CRFA	I	CORRESPONDENCE RECEIVED IN LAW OFFICE	010
03/25/2010	ALIE	A	ASSIGNED TO LIE	009
03/24/2010	ASGN	I	AUTOMATIC UPDATE OF ASSIGNMENT OF OWNERSHIP	008
03/18/2010	TROA	I	TEAS RESPONSE TO OFFICE ACTION RECEIVED	007
02/22/2010	GNRN	O	NOTIFICATION OF NON-FINAL ACTION E-MAILED	006
02/22/2010	GNRT	F	NON-FINAL ACTION E-MAILED	005
02/22/2010	CNRT	R	NON-FINAL ACTION WRITTEN	004
02/22/2010	DOCK	D	ASSIGNED TO EXAMINER	003
11/20/2009	NWOS	I	NEW APPLICATION OFFICE SUPPLIED DATA ENTERED IN TRAM	002
11/19/2009	NWAP	I	NEW APPLICATION ENTERED IN TRAM	001

CURRENT CORRESPONDENCE INFORMATION

ATTORNEY	Thomas J. Moore
CORRESPONDENCE ADDRESS	THOMAS J. MOORE BACON & THOMAS, PLLC 625 SLATERS LN FL 4 ALEXANDRIA, VA 22314-1169
DOMESTIC REPRESENTATIVE	Bacon & Thomas, PLLC

PRIOR OWNER INFORMATION

PARTY TYPE	10-ORIGINAL APPLICANT
NAME	MAGNESITA REFRACTORIES COMPANY
ADDRESS	P.O. Box 7708 York, PA 17404
ENTITY	03-CORPORATION
CITIZENSHIP	Pennsylnania

MAGNESITA

To:	Magnesita Refractories Company (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 85834316 - MAGNESITA - MAGN6029/TJM
Sent:	2/27/2013 11:30:34 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	Attachment - 1 Attachment - 2 Attachment - 3 Attachment - 4 Attachment - 5 Attachment - 6 Attachment - 7 Attachment - 8 Attachment - 9 Attachment - 10 Attachment - 11 Attachment - 12 Attachment - 13 Attachment - 14

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

U.S. APPLICATION SERIAL NO. 85834316

MARK: MAGNESITA

85834316

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

CLICK HERE TO RESPOND TO THIS LETTER:
http://www.uspto.gov/trademarks/teas/response_forms.jsp

APPLICANT: Magnesita Refractories Company

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6029/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

OFFICE ACTION

STRICT DEADLINE TO RESPOND TO THIS LETTER
TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER **WITHIN 6 MONTHS** OF THE ISSUE/MAILING DATE BELOW.

ISSUE/MAILING DATE: 2/27/2013

The referenced application has been reviewed by the assigned trademark examining attorney. Applicant must respond timely and completely to the issue(s) below. 15 U.S.C. §1062(b); 37 C.F.R. §§2.62(a), 2.65(a); TMEP §§711, 718.03.

The trademark examining attorney has searched the Office's database of registered and pending marks and has found no conflicting marks that would bar registration under Trademark Act Section 2(d). TMEP §704.02; *see* 15 U.S.C. §1052(d).

Refusal-Mark is Merely Descriptive
Registration is refused because the applied-for mark merely describes the primary component of the applicant's goods. Trademark Act Section 2(e)(1), 15 U.S.C. §1052(e)(1); *see* TMEP §§1209.01(b), 1209.03 *et seq.*

The applicant's mark is MAGNESITA for "refractory products not primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes; and pre-cast refractory shapes" and for "providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus, namely, high temperature furnaces and industrial kilns; and providing information via a global computer network on the use of mechanical equipment and computer models to construct, maintain and repair refractory installations."

The determination of whether a mark is merely descriptive is considered in relation to the identified goods and/or services, not in the abstract. *In re Abcor Dev. Corp.*, 588 F.2d 811, 814, 200 USPQ 215, 218 (C.C.P.A. 1978); TMEP §1209.01(b); *see, e.g., In re Polo Int'l Inc.*, 51 USPQ2d 1061 (TTAB 1999) (finding DOC in DOC-CONTROL would be understood to refer to the "documents" managed by applicant's software, not "doctor" as shown in dictionary definition); *In re Digital Research Inc.*, 4 USPQ2d 1242 (TTAB 1987) (finding CONCURRENT PC-DOS merely descriptive of "computer programs recorded on disk" where relevant trade used the denomination "concurrent" as a descriptor of a particular type of operating system). "Whether consumers could guess what the product is from consideration of the mark alone is not the test." *In re Am. Greetings Corp.*, 226 USPQ 365, 366 (TTAB 1985).

"A mark may be merely descriptive even if it does not describe the 'full scope and extent' of the applicant's goods or services." *In re Oppedahl & Larson LLP*, 373 F.3d 1171, 1173, 71 USPQ2d 1370, 1371 (Fed. Cir. 2004) (citing *In re Dial-A-Mattress Operating Corp.*, 240 F.3d 1341, 1346, 57 USPQ2d 1807, 1812 (Fed. Cir. 2001)); TMEP §1209.01(b). It is enough if the term describes only one significant function, attribute or property. *In re Oppedahl*, 373 F.3d at 1173, 71 USPQ2d at 1371; TMEP §1209.01(b).

As is discussed below, the word magnesita translates to magnesite or magnesia. The examining attorney conducted a search of " magnesite uses" using the Google® search engine. The results are attached. The websites excerpted discuss the use of magnesite or magnesia in refractory products. The applicant's goods are refractory products as well as services that discuss how to use the products for repairs of refractory apparatus. The term describes an important component of the applicant's goods.

For the above reasons the mark is refused under Section 2(e)(1).

Supplemental Register Untimely
Although an amendment to the Supplemental Register would normally be an appropriate response to this refusal(s), such a response is not appropriate in the present case. The instant application was filed under Trademark Act Section 1(b) and is not eligible for registration on the Supplemental Register until an acceptable amendment to allege use meeting the requirements of 37 C.F.R. §2.76(b), (c) has been timely filed. 37 C.F.R. §2.47(d); TMEP §§816.02, 1102.03.

If applicant files an acceptable allegation of use and also amends to the Supplemental Register, the effective filing date of the application will be the date on which applicant met the minimum filing requirements of 37 C.F.R. §2.76(e) for the amendment to allege use. 37 C.F.R. §2.75(b); TMEP §§816.02, 1102.03. In addition, the undersigned trademark examining attorney will conduct a new search of the Office records for conflicting marks based on the later application filing date. TMEP §§206.01, 1102.03.

Translation Required
The following translation statement should be added to the record:

> The English translation of MAGNESITA in the mark is " magnesite" or "magnesia."

The examining attorney attached copies of excerpts of websites that include translations of the term " magnesita." In addition, the applicant has claimed ownership of a prior registration in which the term magnesita is translated as magnesite or magnesia.

See 37 C.F.R. §§2.32(a)(9), 2.61(b); TMEP §§809, 809.03.

Response Guidelines
For this application to proceed toward registration, applicant must explicitly address each refusal and/or requirement raised in this Office action. If the action includes a refusal, applicant may provide arguments and/or evidence as to why the refusal should be withdrawn and the mark should register. Applicant may also have other options for responding to a refusal and should consider such options carefully. To respond to requirements and certain refusal response options, applicant should set forth in writing the required changes or statements.
If applicant does not respond to this Office action within six months of the issue/mailing date, or responds by expressly abandoning the application, the application process will end, the trademark will fail to register, and the application fee will not be refunded. *See* 15 U.S.C. §1062(b); 37 C.F.R. §§2.65(a), 2.68(a), 2.209(a); TMEP §§405.04, 718.01, 718.02. Where the application has been abandoned for failure to respond to an Office action, applicant's only option would be to file a timely petition to revive the application, which, if granted, would allow

the application to return to live status. *See* 37 C.F.R. §2.66; TMEP §1714. There is a $100 fee for such petitions. *See* 37 C.F.R. §§2.6, 2.66(b)(1).

To expedite prosecution of the application, applicant is encouraged to file its response to this Office action online via the Trademark Electronic Application System (TEAS), which is available at http://www.uspto.gov/teas/index.html. If applicant has technical questions about the TEAS response to Office action form, applicant can review the electronic filing tips available online at http://www.uspto.gov/teas/eFilingTips.htm and email technical questions to TEAS@uspto.gov.

If applicant has questions regarding this Office action, please telephone or e-mail the assigned trademark examining attorney. All relevant e-mail communications will be placed in the official application record; however, an e-mail communication will not be accepted as a response to this Office action and will not extend the deadline for filing a proper response. *See* 37 C.F.R. §2.191; TMEP §§304.01-.02, 709.04-.05. Further, although the trademark examining attorney may provide additional explanation pertaining to the refusal(s) and/or requirement(s) in this Office action, the trademark examining attorney may not provide legal advice or statements about applicant's rights. *See* TMEP §§705.02, 709.06.

/Dawn Feldman Lehker/
Trademark Examining Attorney
Law Office 111
U.S. Patent and Trademark Office
(571)272-9381
dawn.feldman-lehker@uspto.gov

TO RESPOND TO THIS LETTER: Go to http://www.uspto.gov/trademarks/teas/response_forms.jsp. Please wait 48-72 hours from the issue/mailing date before using the Trademark Electronic Application System (TEAS), to allow for necessary system updates of the application. For *technical* assistance with online forms, e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned trademark examining attorney. **E-mail communications will not be accepted as responses to Office actions; therefore, do not respond to this Office action by e-mail.**

All informal e-mail communications relevant to this application will be placed in the official application record.

WHO MUST SIGN THE RESPONSE: It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

PERIODICALLY CHECK THE STATUS OF THE APPLICATION: To ensure that applicant does not miss crucial deadlines or official notices, check the status of the application every three to four months using the Trademark Status and Document Retrieval (TSDR) system at http://tsdr.uspto.gov/. Please keep a copy of the TSDR status screen. If the status shows no change for more than six months, contact the Trademark Assistance Center by e-mail at TrademarkAssistanceCenter@uspto.gov or call 1-800-786-9199. For more information on checking status, see http://www.uspto.gov/trademarks/process/status/.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/trademarks/teas/correspondence.jsp.

http://www.spanishdict.com/translate/magnesita 02/27/2013 10:15:51 AM

SpanishDict Translate Conjugate Q&A Learn More Login Sign Up

Free SpanishDict Word of the Day! Sign up now >>> Get Started!

magnesita

¿ ¡ á é í ó ú ü ñ Translate

magnesita

magnesita [mag-nay-see'-tah]

noun

1. **Magnesite.** (f)

Lookup translations for "**magnesita**" using our machine translators.

Lookup phrases and idioms related to "**magnesita**" in our phrasebook.

Lookup questions and answers related to "**magnesita**" in our answers forum.

Search History
magnesita

DOWNLOAD OUR FREE APP

Available on the App Store

GET IT ON Google play

CONNECT WITH SPANISHDICT

SpanishDict Like 40,448

Follow @SpanishDict 13.3K followers

Feedback Feed Feed Feed Feed Feed

http://www.spanishdict.com/translate/magnesita 02/27/2013 10:15:51 AM

Feed

Did you find an answer to your question? Yes | No

Feed

Did you find an answer to your question? Yes | No

Feedback

Ver página en español

SPANISH REFERENCE		LEARN SPANISH		POPULAR SEARCHES	
English to Spanish translation	Traductor inglés español	Learn Spanish	Aprende inglés gratis	How in Spanish	Saber en inglés
Spanish to English translation	Traductor castellano inglés	Spanish verb conjugation	Verbos en inglés	The in Spanish	Poner en inglés
English to Spanish dictionary	Diccionario inglés español	Learn Spanish flashcards	Ejercicios de inglés	For in Spanish	Venir en inglés
Spanish to English dictionary	Diccionario español inglés	Spanish-English Q&A	Español-inglés Q&A	At in Spanish	Traer en inglés

Learn Spanish VIDEOS

HOTCHALK GlamFamily

Available on ANDROID

Available on the iPhone App Store

About | Contact Us | Privacy | Terms of Service

http://mymemory.translated.net/t/Spanish/English/magnesita 02/27/2013 10:16:43 AM

MyMemory Translated.net

0 contribution(s) | Home | Professional Translation Service | Translation API | About MyMemory | Log in

magnesita Language pair: Spanish English Subject All Search

All My memories Ask Google

You searched for: magnesita [Turn off colors]

Download a TMX | Contribute a TMX PRO

Human contributions From professional translators, enterprises, web pages and freely available translation repositories.

Add a translation

Spanish	English	Info
Magnesita	Magnesite	Last Update: 2011-02-11 Usage Frequency: 20 Quality: Be the first to vote **Reference: Wikipedia**
68159100 | - - Que contengan magnesita, dolomita o cromita | http://eur-lex.europa.eu/Le [...] 01:01:ES:HTML	68159100 | - - Containing magnesite, dolomite or chromite | http://eur-lex.europa.eu/Le [...] 01:01:EN:HTML	Last Update: 2009-01-01 Subject: Legal and Notarial Usage Frequency: 2 Quality: Be the first to vote
Además, el contenido en MgO de la magnesita china era naturalmente más elevado.	Furthermore, the MgO content of Chinese magnesite was naturally higher.	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 1 Quality: Be the first to vote **Reference: Translated.net**
Todas las clases de magnesita, incluida la DBM, han estado cubiertas por este sistema de autorizaciones.	All different sorts of magnesia, including DBM, have been covered by this licence system.	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 1 Quality: Be the first to vote **Reference: Translated.net**
No obstante, se podrá utilizar el carbonato de magnesio natural (magnesita) | | http://eur-lex.europa.eu/Le [...] 01:01:ES:HTML	However, natural magnesium carbonate (magnesite) may be used | | http://eur-lex.europa.eu/Le [...] 01:01:EN:HTML	Last Update: 2009-01-01 Subject: Legal and Notarial Usage Frequency: 2 Quality: Be the first to vote
A este respecto, la investigación ha mostrado que la magnesita se extrae y se transforma en DBM de maneras similares;	In this respect the investigation has shown that magnesite is extracted and processed into DBM in similar ways;	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 1 Quality: Be the first to vote **Reference: Translated.net**

http://mymemory.translated.net/t/Spanish/English/magnesita 02/27/2013 10:16:43 AM

Todas las diferentes clases de magnesia, incluida la magnesita calcinada cáustica, han estado sujetas desde entonces a este sistema de licencias.	All different sorts of magnesia, including caustic calcined magnesite, have been covered by this licence system since.	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 1 Quality: Be the first to vote **Reference:** Translated.net
25199010 | Óxido de magnesio [excepto el carbonato de magnesio (magnesita) calcinado] | NS | http://eur-lex.europa.eu/Le [...] 04:01:ES:HTML	25199010 | Magnesium oxide, other than calcined natural magnesium carbonate | NS | http://eur-lex.europa.eu/Le [...] 04:01:EN:HTML	Last Update: 2009-01-01 Subject: Legal and Notarial Usage Frequency: 1 Quality: Be the first to vote
La magnesita, la materia prima para la producción de MCC, resulta fácilmente disponible en grandes cantidades en minas a cielo abierto situadas cerca de las fábricas.	The magnesite, the raw material for the production of CCM, is easily available in large quantities in open cast mines close to the plants.	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 1 Quality: Be the first to vote **Reference:** Translated.net
El límite entre los grados queda difuminado por el encabalgamiento, debido a que los usuarios utilizan, con objetivos idénticos, magnesita de diversos grados y de diversas fuentes de suministro.	The boundary between the grades is blurred by overlapping usage since users do use, for identical purposes, magnesite of different grades and from different sources of supply.	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 1 Quality: Be the first to vote **Reference:** Translated.net
Forma natural del silicato de magnesio hidratado, que contiene proporciones diversas de minerales asociados tales como cuarzo alfa, calcita, clorita, dolomita, magnesita y flogopita	Naturally occurring form of hydrous magnesium silicate containing varying proportions of such associated minerals as alpha-quartz, calcite, chlorite, dolomite, magnesite, and phlogopite	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 1 Quality: Be the first to vote **Reference:** Translated.net
Para producir MCC, la magnesita tiene que ser extraída, aglomerada, separada	In order to produce CCM, magnesite has to be mined, crushed, sorted and	Last Update: 2009-01-01

http://mymemory.translated.net/t/Spanish/English/magnesita 02/27/2013 10:16:43 AM

y a continuación fundida en un horno a temperaturas comprendidas entre 700 ° C y 1000 °C.	has to be mined, crushed, sorted and then burned in a kiln at temperatures of 700 to 1000 °C.	Subject: Social Science Usage Frequency: 1 Quality: Be the first to vote **Reference: Translated.net**
Eurometaux alegó que el sistema chino de licencias para la magnesita podría ser suprimido próximamente, y expresó su temor de que las exportaciones chinas de magnesita, como consecuencia de esta supresión, se incrementaran en volumen y disminuyeran considerablemente en cuanto a sus precios, en caso de no mantenerse las medidas antidumping.	Eurometaux claimed that the Chinese licence system for magnesite could be abolished soon and feared that Chinese exports of magnesite would, as a consequence of the abolition, increase in volume and considerably decrease in prices, should the anti-dumping measures not be continued.	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 1 Quality: Be the first to vote **Reference: Translated.net**
El producto afectado por el presente procedimiento es una forma de óxido de magnesio, a saber, la magnesita calcinada cáustica natural (MCC), que se transforma a partir del carbonato de magnesio o magnesita natural.	The product concerned by this proceeding is a form of magnesium oxide, namely natural caustic calcined magnesite (CCM), which is processed from naturally occurring magnesium carbonate or magnesite.	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 1 Quality: Be the first to vote **Reference: Translated.net**
El producto considerado en este procedimiento es la magnesita natural calcinada a muerte ("DBM"). La magnesita es un carbonato de magnesio que se encuentra en estado natural.	The product under consideration is natural dead-burned magnesia (DBM) which is processed from magnesite, that is naturally occurring magnesium carbonate.	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 1 Quality: Be the first to vote **Reference: Translated.net** **Warning: Contains invisible HTML formatting**
Grecian Magnesite SA, Atenas, Grecia,	Grecian Magnesite SA, Athens, Greece,	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 2

http://mymemory.translated.net/t/Spanish/English/magnesita 02/27/2013 10:16:43 AM

		Usage Frequency: 2 Quality: ☆☆☆☆☆ Be the first to vote **Reference: Translated.net**
Magnesitas Navarras, Pamplona, España,	Magnesitas Navarras, Pamplona, Spain	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 2 Quality: ☆☆☆☆☆ Be the first to vote **Reference: Translated.net**
En primer lugar, debe considerarse que la mayoría de los datos específicos relativos a la industria de la Comunidad para el período considerado se han calculado sobre la base de los datos de tres productores comunitarios, Grecian Magnesite, Magnesitas Navarras y Magnesitas de Rubián.	Firstly, it should be noted that most of the specific data relating to the Community industry for the IIP have been calculated on the basis of the data of three Community producers Grecian Magnesite, Magnesitas Navarras and Magnesitas de Rubián.	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 1 Quality: ☆☆☆☆☆ Be the first to vote **Reference: Translated.net**
Magnesitas de Rubián, Sarria (Lugo), España,	Magnesitas de Rubian, Sarria (Lugo), Spain	Last Update: 2009-01-01 Subject: Social Science Usage Frequency: 1 Quality: ☆☆☆☆☆ Be the first to vote **Reference: Translated.net**
68159100 | - - Que contenha magnesite, dolomite ou cromite | http://eur-lex.europa.eu/Le [...] 01:01:PT:HTML	68159100 | - - Containing magnesite, dolomite or chromite | http://eur-lex.europa.eu/Le [...] 01:01:EN:HTML	Last Update: 2009-01-01 Subject: Legal and Notarial Usage Frequency: 2 Quality: ☆☆☆☆☆ Be the first to vote

Add a translation

Search **621.253.903**human translated sentences
Credits - Computer translations are provided by a combination of our statistical machine translator, Google, Microsoft, Systran and Worldlingo.

Help rating similar searches: considerablemente (Spanish - English) | encabalgamiento (Spanish - English) | investigación (Spanish - English) | continuación (Spanish - English)

Users are now asking for help: nyilatkozat átláthatóságról (Hungarian>English) | animan15 (Spanish>English) | postissa on 100 kirjetta (Finnish>English) | judging (English>Russian) | effectieven (Dutch>French) | a prescindere (Italian>Portuguese) | saã°de, idade e trabalho (Portuguese>English) | 2， 3日 (Japanese>English) | ofrezcáis (Spanish>Latin) | lately (English>Italian) | lisäsimme toiminnallisuuksia (Finnish>English) | määräämisperusteista (Finnish>English) | fout (Dutch>Spanish) | what is the your name of your first school (English>French) | almacen (Spanish>Polish)

Report Abuse | About MyMemory | Contact Us

MyMemory in your language: English | Italiano | Español | Français | Deutsch | Português | Русский | 日本語 | 汉语

http://www.google.com/#hl=en&sugexp=les%3B&gs_rn=4&gs_ri=psy-ab&gs_mss=translation%20of%20magnesi&cp=24&gs_id=24&xhr=t&q=translation+of+magnesita&es_nrs=true&pf=p&sclient=psy-ab&oq=translation+of+magnesita&gs_l=&pbx=1&bav=on.2,or.r_gc.r_pw.&bvm=bv.42965579,d.dmg&fp=61382878e6df0995&biw=1274&bih=746 02/27/2013 10:17:01 AM

Search Images Maps Play YouTube News Gmail Drive More Sign in

Google translation of magnesita

Web Images Maps Shopping More Search tools

About 2,180,000 results (0.42 seconds)

magnesite

Translate "magnesita" from Portuguese (Portugal)

Translation of Magnesita in Spanish
translation.babylon.com › Spanish Translation
Translation of magnesita in Spanish. **Translate magnesita** in Spanish online and download now our free translator to use any time at no charge.

Translation of Magnesita in English
translation.babylon.com › English Translation
Translation of magnesita in English. **Translate magnesita** in English online and download now our free translator to use any time at no charge.

Magnesita en inglés | Traductor español a inglés | Engli...
www.spanishdict.com/**translate**/**magnesita**
Translation of magnesita on the Internet's leading Spanish English dictionary.

How to say **Magnesita** in Afrikaans **Translation**
howtosay.org/es_af/**Magnesita**
How to say **Magnesita** in Afrikaans. Easily find the right **translation** for **Magnesita** from Spanish to Afrikaans submitted and enhanced by our users.

http://geology.com/minerals/magnesite.shtml 02/27/2013 10:18:31 AM

geology.com

Google Custom Search
Search

Geology.com | News | Careers | Articles | US Maps | World Maps | Satellite Images | Dictionary | Rocks | Store

Categories
Astronomy
Careers
Climate Change
Diamonds
Earthquakes
Energy
Fossils
Gemstones
Geologic Hazards

Home » Minerals » Magnesite

Magnesite - Mineral Properties and Uses

Uses	Magnesite uses include: refractory bricks, cement,.
Color	white, grayish, yellowish, brownish, colorless
Streak	white
Luster	vitreous
Diaphaneity	transparent to translucent
Cleavage	perfect
Mohs Hardness	3.5 -5.0
Specific Gravity	3.0 - 3.2
Distinguishing Characteristics	dissolves with warm HCl in the powdered form
Crystal System	hexagonal

Magnesite Pictures

Magnesite from Chewelah, Washington.
Specimen is approximately 3-1/2 inches (8.9 centimeters) across.

Magnesite from Riverside County, California.
Specimen is approximately 4 inches (10 centimeters) across.

http://geology.com/minerals/magnesite.shtml 02/27/2013 10:18:31 AM

Minnesota Map
Mississippi Map
Missouri Map
Montana Map
Nebraska Map
Nevada Map
New Hampshire Map
New Jersey Map
New Mexico Map
New York Map
North Carolina Map
North Dakota Map
Ohio Map
Oklahoma Map
Oregon Map
Pennsylvania Map
Rhode Island Map
South Carolina Map
South Dakota Map
Tennessee Map
Texas Map
Utah Map
Vermont Map
Virginia Map
Washington Map
West Virginia Map
Wisconsin Map
Wyoming Map

Magnesite from Chewelah, Washington.
Specimen is approximately 2-1/2 inches (6.4 centimeters) across.

More Information About Minerals!

- Mineral Collection
- Printable Mineral Identification Chart
- News About Minerals
- Mineral Rights vs. Surface Property Owner's Rights
- Photo Report - Tucson Gem and Mineral Show
- Photo Report - Denver Gem and Mineral Show
- Rock Tumblers & Rock Polishing
- Herkimer Diamonds
- United States Gemstones
- Interesting Uses of Gold

The Refractories Institute

product directory

Manufacturers

Magnesita Refractories (formerly LWB Refractories)
425 South Salem Church Road
York, PA 17408 - 5955
Phone: (717) 793-5399;
Fax: (717) 793 - 5375;
Website: www.magnesita.com
www.lwbref.com

Magnesita Refratários S.A. ("the Company" or "Magnesita") is a vertically integrated refractory producer supplying the steel, cement and various other industries. In addition, the Company exports some of its raw materials, DBM (Dead Burned Magnesia), and refractories to a wide range of countries. The Company is the leading operator in refractory products in South America, and serves customers in North America, Europe and Asia.

Magnesita operates production facilities in Brazil, Argentina, United States, France, Belgium, Germany, Taiwan and China, representing an aggregate production capacity in excess of 1,430 ktpy.

The Company benefits from some of the largest and highest quality reserves of dolomite, magnesite and talc in the world. Magnesita also has other mineral deposits, including chromite and several clays throughout Brazil. The Company is able to use 80% (by volume) of its own raw materials in the production of refractories, making it one of the lowest cost producers in the industry.

Magnesita operates three Research and Development Centers (CPqD), in Brazil, United States and Germany, which support the needs of the Company and its regions. The group is equipped with state of the art equipment for research and development (R&D) in refractory products and raw materials and has a number of technology license agreements with other world refractory technology leaders.

Management — U.S. Operations:
Jim Piraino, COO
Giovanni Tancredo, VP Sales & Marketing
Rick Gladfelter, VP Manufacturing

Paul Dydek, VP Finance

Plant Locations:
York, PA;
also plants in...
Brazil, Argentina, Germany; France; China, Taiwan

Research Locations:
York, PA; Contagem, Brazil; Hagen, Germany

Laboratory Locations:
All major manufacturing locations

Sales Locations:
York, PA; Brazil; Argentina; Colombia; Paraguay; Peru; Uruguay; Mexico; Germany; France; Italy; South Africa; Sweden; UK; China; Australia; Japan; S. Korea; Taiwan;

TYPES OF PRODUCTS:

Bricks and Shapes:
Alumina
Alumina Mag Carbon/ Mag
Alumina Carbon
Alumina Silicon Carbide
Bottom Pour (Holloware)
Doloma/Magnesia Doloma - fired and cured
Magnesia Carbon
Magnesia Chrome
Magnesia Spinel
Stir Plugs
Pre-cast and– basic and alumina
Isostatically pressed shapes
Zircon nozzles

Bulk Refractories:
Castables – basic and alumina
Coatings
Dry Vibratables
Gunning Mixes
Mortars
Plastics
Ramming Mix
Taphole Mix

Flow Control Products:
Dolomite Graphite (DG) Tubes
Isostatic products
Slide Gate plates, nozzles, sets

TRADEMARKS/BRAND NAMES

DOLA B	DOLOTRAN	JEBCO SHOGUN
JEBCO GUN	PENTIFOIL	DOLO RAM
DOLOMAX	TRIFOIL	PYRO-GATE
DKL		

http://www.ima-na.org/magnesia 02/27/2013 10:23:45 AM

About Industrial Minerals | About IMA-NA | Special Initiatives | Advocacy | Resources | Join IMA-NA | Events

Home | Contact Us | Site Map | Site Search

IMA-NA Industrial Minerals Association North America

There's more to industrial minerals than you think!

Return to About Industrial Minerals

Magnesia

What is Magnesia?

Magnesia is a term used to describe various products from magnesium-rich sources. Magnesium makes up two percent of the earth's crust and is the eighth most plentiful element. It also is the third most abundant element found in sea water. The two most important magnesium minerals are magnesite ($MgCO_3$) and brucite ($Mg(OH)_2$). Magnesite is the most common source of magnesia and serves many important industrial applications. Magnesia either is produced from magnesite ore or extracted from seawater or brines as magnesium hydroxide.

The term "magnesite" literally refers only to the naturally occurring mineral, however common usage has been to apply it to the end products as well.

The two most commercially important magnesia products are dead-burned magnesia and caustic-calcined magnesia.

Did you know?

Industrial minerals are not sold on commodity exchanges, thus producers have to compete directly with each other to gain contracts and customers. Thus, the end-use of the mineral and the current market demand drive prices.

http://www.ima-na.org/magnesia 02/27/2013 10:23:45 AM

Dead-burned magnesia, also known as refractory magnesia, is produced from the heating of magnesite or magnesium hydroxide and is the primary component in refractory materials. The refractory industry is the greatest consumer of magnesium compounds, overall. Refractory materials are nonmetallic substances which are extremely heat resistant and are of great industrial value as the linings in furnaces, kilns and reactors. The steel industry, for instance, is the largest user of refractory magnesia.

Caustic-calcined magnesia (or light-burned magnesia) retains its reactivity and is an essential component in a number of agricultural, environmental, construction and industrial applications.

In agricultural applications, magnesia promotes both plant and livestock health. In fact, magnesium is an essential mineral for both. In plants, magnesium is vital for photosynthesis. In animals, magnesium is required to prevent an often fatal disorder known as hypomagnesia, or grass tetany.

Magnesia plays a vital role in environmental protection. It is used to treat industrial wastewater by removing silica and precipitating heavy metals. It is used to reduce air pollution by stripping sulfur dioxide from industrial air emissions. Its absorbent properties are used to cleanup hazardous chemical spills. And it often is used to render metal-bearing wastes nonhazardous.

In construction, the caustic-calcined product is used to make magnesium oxychloride and oxysulfate cements. These cements are widely used in the flooring industry.

Other industrial applications include use by the oil drilling industry in drilling muds, and by the rubber industry as a vulcanizing agent.

Finally, magnesia is used in comforting consumer products such as milk of magnesia and Epsom salts.

To:	Magnesita Refractories Company (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 85834316 - MAGNESITA - MAGN6029/TJM
Sent:	2/27/2013 11:30:35 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)

IMPORTANT NOTICE REGARDING YOUR U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION (OFFICIAL LETTER) HAS ISSUED
ON **2/27/2013** FOR U.S. APPLICATION SERIAL NO. 85834316

Please follow the instructions below:

(1) TO READ THE LETTER: Click on this link or go to http://tsdr.uspto.gov, enter the U.S. application serial number, and click on "Documents."

The Office action may not be immediately viewable, to allow for necessary system updates of the application, but will be available within 24 hours of this e-mail notification.

(2) TIMELY RESPONSE IS REQUIRED: Please carefully review the Office action to determine (1) how to respond, and (2) the applicable response time period. Your response deadline will be calculated from **2/27/2013** (*or sooner if specified in the Office action*). For information regarding response time periods, see http://www.uspto.gov/trademarks/process/status/responsetime.jsp.

Do NOT hit "Reply" to this e-mail notification, or otherwise e-mail your response because the USPTO does NOT accept e-mails as responses to Office actions. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System (TEAS) response form located at http://www.uspto.gov/trademarks/teas/response_forms.jsp.

(3) QUESTIONS: For questions about the contents of the Office action itself, please contact the assigned trademark examining attorney. For *technical* assistance in accessing or viewing the Office action in the Trademark Status and Document Retrieval (TSDR) system, please e-mail TSDR@uspto.gov.

WARNING

Failure to file the required response by the applicable response deadline will result in the ABANDONMENT of your application. For more information regarding abandonment, see http://www.uspto.gov/trademarks/basics/abandon.jsp**.**

PRIVATE COMPANY SOLICITATIONS REGARDING YOUR APPLICATION: Private companies **not** associated with the USPTO are using information provided in trademark applications to mail or e-mail trademark-related solicitations. These companies often use names that closely resemble the USPTO and their solicitations may look like an official government document. Many solicitations require that you pay "fees."

Please carefully review all correspondence you receive regarding this application to make sure that you are responding to an official document from the USPTO rather than a private company solicitation. All official USPTO correspondence will be mailed only from the "United States Patent and Trademark Office" in Alexandria, VA; or sent by e-mail from the domain "@uspto.gov." For more information on how to handle private company solicitations, see http://www.uspto.gov/trademarks/solicitation_warnings.jsp.

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	3/28/2013 11:11:47 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

U.S. APPLICATION SERIAL NO. 77873477

MARK: MAGNESITA

77873477

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

CLICK HERE TO RESPOND TO THIS LETTER:
http://www.uspto.gov/trademarks/teas/response_forms.jsp

APPLICANT: MAGNESITA REFRACTORIES COMPANY

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6002/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

OFFICE ACTION

STRICT DEADLINE TO RESPOND TO THIS LETTER

TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER **WITHIN 6 MONTHS** OF THE ISSUE/MAILING DATE BELOW.

ISSUE/MAILING DATE: 3/28/2013

This letter responds to the applicant's correspondence filed on February 22, 2013.
The refusal under Section 2(e)(1) is maintained and continued.
The examining attorney withdraws the Final Office Action because the applicant's response raises a new issue.

Section 2(f) Claim Fails

In response to the examining attorney's final refusal under Section 2(e)(1), the applicant filed a claim of acquired distinctiveness under Section 2(f). The Section 2(f) claim fails for the following reasons as discussed below.

The applicant attempted to claim Section 2(f) based on actual evidence of secondary meaning. TMEP Section 1212.06 states that "in considering a claim of acquired distinctiveness, the issue is whether acquired distinctiveness of the mark in relation to the goods or services has in fact been established in the minds of the purchasing public, not whether the mark is capable of becoming distinctive. In re Redken Labs., Inc., 170 USPQ 526, 528 (TTAB 1971); In re Fleet-Wing Corp., 122 USPQ 335, 335 (TTAB 1959)."
The applicant submitted a foreign registration for the proposed mark as well as the applicant's own website. The applicant has only been using this mark in connection with the goods since October of 2010 and with respect to the services May 5, 2011. This is a very short timeline for the applicant to have established secondary meaning.
In determining whether the proposed mark has acquired distinctiveness, the following factors are generally considered: (1) length and exclusivity of use of the mark in the United States by applicant; (2) the type, expense and amount of advertising of the mark in the United States; and (3) applicant's efforts in the United States to associate the mark with the source of the goods and/or services, such as unsolicited media coverage and consumer studies. *See In re Steelbuilding.com*, 415 F.3d 1293, 1300, 75 USPQ2d 1420, 1424 (Fed. Cir. 2005). A showing of acquired distinctiveness need not consider all of these factors, and no single factor is determinative. *In re Steelbuilding.com*, 415 F.3d at 1300, 75 USPQ2d at 1424; *see* TMEP §§1212 *et seq.*
Evidence of acquired distinctiveness may include specific dollar sales under the mark, advertising figures, samples of advertising, consumer or

dealer statements of recognition of the mark as a source identifier, affidavits, and any other evidence that establishes the distinctiveness of the mark as an indicator of source. *See* 37 C.F.R. §2.41(a); *In re Ideal Indus., Inc.*, 508 F.2d 1336, 184 USPQ 487 (C.C.P.A. 1975); *In re Instant Transactions Corp.*, 201 USPQ 957 (TTAB 1979); TMEP §§1212.06 *et seq.*

As discussed above, the applicant has not been using the mark for very long in the United States. There is no evidence of the extent of the applicant's advertising expenditures in the United States nor is there any evidence that the purchasing public recognizes the applicant's mark with the source of the goods and services.

For the above reasons the Section 2(f) claim fails and the refusal under Section 2(e)(1) is maintained and continued.

The examining attorney overlooked an issue in the prior office actions. The applicant should address the issue stated below.

Identification of Goods

The identification of goods is indefinite and must be clarified because the identification of goods as currently written could fall into more than one international class of goods. *See* TMEP §1402.01. The examining attorney makes the following suggestions.

> Refractory products made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes in International Class 6; and/or
>
> Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes in International Class 19.

An applicant may amend an identification of goods only to clarify or limit the goods; adding to or broadening the scope of the goods is not permitted. 37 C.F.R. §2.71(a); *see* TMEP §§1402.06 *et seq.*, 1402.07 *et seq*.

For assistance with identifying and classifying goods and/or services in trademark applications, please see the USPTO's online searchable *U.S. Acceptable Identification of Goods and Services Manual* at http://tess2.uspto.gov/netahtml/tidm.html. *See* TMEP §1402.04.

Prosecution as a Combined Application

For an application with more than one international class, called a "multiple-class application," an applicant must meet all the requirements below for those international classes based on use in commerce:

(1) LIST GOODS AND/OR SERVICES BY INTERNATIONAL CLASS: Applicant must list the goods and/or services by international class.

(2) PROVIDE FEES FOR ALL INTERNATIONAL CLASSES: Applicant must submit an application filing fee for each international class of goods and/or services not covered by the fee(s) already paid (confirm current fee information at http://www.uspto.gov/trademarks/tm_fee_info.jsp).

(3) SUBMIT REQUIRED STATEMENTS AND EVIDENCE: For each international class of goods and/or services, applicant must also submit the following:

   (a) DATES OF USE: Dates of first use of the mark anywhere and dates of first use of the mark in commerce, or a statement that the dates of use in the initial application apply to that class. The dates of use, both anywhere and in commerce, must be at least as early as the filing date of the application.

   (b) SPECIMEN: One specimen showing the mark in use in commerce for each international class of goods and/or services. Applicant must have used the specimen in commerce at least as early as the filing date of the application. If a single specimen supports multiple international classes, applicant should indicate which classes the specimen supports. Examples of specimens for goods are tags, labels, instruction manuals, containers, photographs that show the mark on the actual goods or packaging, or displays associated with the goods at their point of sale. *See* TMEP §§904.03 *et seq.* Examples of specimens for services are signs, photographs, brochures, website printouts, or advertisements that show the mark used in the actual sale or advertising of the services. *See* TMEP §§1301.04 *et seq.*

   (c) STATEMENT: The following statement: "**The specimen was in use in commerce on or in connection with the goods and/or services listed in the application at least as early as the filing date of the application.**"

   (d) VERIFICATION: Applicant must verify the statements in 3(a) and 3(c) (above) in an affidavit or signed declaration under 37 C.F.R. §2.20. Verification is not required where (1) the dates of use for the added class are stated to be the same as the dates of use specified in the initial application, and (2) the original specimens are acceptable for the added class(es).

See 15 U.S.C. §§1051(a), 1112, 1127; 37 C.F.R. §§2.32(a)(5), 2.34(a)(1), 2.56(a), 2.71(c), 2.86(a), 2.193(e)(1); TMEP §§1403.01, 1403.02(c).

Fees

The filing fee for adding classes to an application is as follows:

(1) $325 per class, when the fees are submitted with a response filed online via the Trademark Electronic Application System (TEAS) at http://www.uspto.gov/teas/index.html; or

(2) $375 per class, when the fees are submitted with a paper response.

37 C.F.R. §2.6(a)(1)(i)-(a)(1)(ii); TMEP §810.

Response Guidelines

For this application to proceed toward registration, applicant must explicitly address each refusal and/or requirement raised in this Office action. If the action includes a refusal, applicant may provide arguments and/or evidence as to why the refusal should be withdrawn and the mark should register. Applicant may also have other options for responding to a refusal and should consider such options carefully. To respond to requirements and certain refusal response options, applicant should set forth in writing the required changes or statements.

If applicant does not respond to this Office action within six months of the issue/mailing date, or responds by expressly abandoning the application, the application process will end, the trademark will fail to register, and the application fee will not be refunded. *See* 15 U.S.C. §1062(b); 37 C.F.R. §§2.65(a), 2.68(a), 2.209(a); TMEP §§405.04, 718.01, 718.02. Where the application has been abandoned for failure to

respond to an Office action, applicant's only option would be to file a timely petition to revive the application, which, if granted, would allow the application to return to live status. *See* 37 C.F.R. §2.66; TMEP §1714. There is a $100 fee for such petitions. *See* 37 C.F.R. §§2.6, 2.66(b)(1).

To expedite prosecution of the application, applicant is encouraged to file its response to this Office action online via the Trademark Electronic Application System (TEAS), which is available at http://www.uspto.gov/teas/index.html. If applicant has technical questions about the TEAS response to Office action form, applicant can review the electronic filing tips available online at http://www.uspto.gov/teas/eFilingTips.htm and email technical questions to TEAS@uspto.gov.

If applicant has questions regarding this Office action, please telephone or e-mail the assigned trademark examining attorney. All relevant e-mail communications will be placed in the official application record; however, an e-mail communication will not be accepted as a response to this Office action and will not extend the deadline for filing a proper response. *See* 37 C.F.R. §2.191; TMEP §§304.01-.02, 709.04-.05. Further, although the trademark examining attorney may provide additional explanation pertaining to the refusal(s) and/or requirement(s) in this Office action, the trademark examining attorney may not provide legal advice or statements about applicant's rights. *See* TMEP §§705.02, 709.06.

/Dawn Feldman Lehker/
Trademark Examining Attorney
Law Office 111
U.S. Patent and Trademark Office
(571)272-9381
dawn.feldman-lehker@uspto.gov

TO RESPOND TO THIS LETTER: Go to http://www.uspto.gov/trademarks/teas/response_forms.jsp. Please wait 48-72 hours from the issue/mailing date before using the Trademark Electronic Application System (TEAS), to allow for necessary system updates of the application. For *technical* assistance with online forms, e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned trademark examining attorney. **E-mail communications will not be accepted as responses to Office actions; therefore, do not respond to this Office action by e-mail.**

All informal e-mail communications relevant to this application will be placed in the official application record.

WHO MUST SIGN THE RESPONSE: It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

PERIODICALLY CHECK THE STATUS OF THE APPLICATION: To ensure that applicant does not miss crucial deadlines or official notices, check the status of the application every three to four months using the Trademark Status and Document Retrieval (TSDR) system at http://tsdr.uspto.gov/. Please keep a copy of the TSDR status screen. If the status shows no change for more than six months, contact the Trademark Assistance Center by e-mail at TrademarkAssistanceCenter@uspto.gov or call 1-800-786-9199. For more information on checking status, see http://www.uspto.gov/trademarks/process/status/.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/trademarks/teas/correspondence.jsp.

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	3/28/2013 11:11:48 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)

IMPORTANT NOTICE REGARDING YOUR U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION (OFFICIAL LETTER) HAS ISSUED
ON **3/28/2013** FOR U.S. APPLICATION SERIAL NO. 77873477

Please follow the instructions below:

(1) TO READ THE LETTER: Click on this link or go to http://tsdr.uspto.gov, enter the U.S. application serial number, and click on "Documents."

The Office action may not be immediately viewable, to allow for necessary system updates of the application, but will be available within 24 hours of this e-mail notification.

(2) TIMELY RESPONSE IS REQUIRED: Please carefully review the Office action to determine (1) how to respond, and (2) the applicable response time period. Your response deadline will be calculated from **3/28/2013** (*or sooner if specified in the Office action*). For information regarding response time periods, see http://www.uspto.gov/trademarks/process/status/responsetime.jsp.

Do NOT hit "Reply" to this e-mail notification, or otherwise e-mail your response because the USPTO does NOT accept e-mails as responses to Office actions. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System (TEAS) response form located at http://www.uspto.gov/trademarks/teas/response_forms.jsp.

(3) QUESTIONS: For questions about the contents of the Office action itself, please contact the assigned trademark examining attorney. For *technical* assistance in accessing or viewing the Office action in the Trademark Status and Document Retrieval (TSDR) system, please e-mail TSDR@uspto.gov.

WARNING

Failure to file the required response by the applicable response deadline will result in the ABANDONMENT of your application. For more information regarding abandonment, see http://www.uspto.gov/trademarks/basics/abandon.jsp**.**

PRIVATE COMPANY SOLICITATIONS REGARDING YOUR APPLICATION: Private companies **not** associated with the USPTO are using information provided in trademark applications to mail or e-mail trademark-related solicitations. These companies often use names that closely resemble the USPTO and their solicitations may look like an official government document. Many solicitations require that you pay "fees."

Please carefully review all correspondence you receive regarding this application to make sure that you are responding to an official document from the USPTO rather than a private company solicitation. All official USPTO correspondence will be mailed only from the "United States Patent and Trademark Office" in Alexandria, VA; or sent by e-mail from the domain "@uspto.gov." For more information on how to handle private company solicitations, see http://www.uspto.gov/trademarks/solicitation_warnings.jsp.

PTO Form 1957 (Rev 9/2005)
OMB No. 0651-0050 (Exp. 07/31/2017)

Response to Office Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	85834316
LAW OFFICE ASSIGNED	LAW OFFICE 111
MARK SECTION	
MARK	http://tess2.uspto.gov/ImageAgent/ImageAgentProxy?getImage=85834316
LITERAL ELEMENT	MAGNESITA
STANDARD CHARACTERS	YES
USPTO-GENERATED IMAGE	YES
MARK STATEMENT	The mark consists of standard characters, without claim to any particular font style, size or color.
ARGUMENT(S)	
The Office Action objects to the mark as allegedly, merely descriptive. This objection has been carefully considered. Applicant respectfully submits that the mark is suggestive, not merely descriptive, and that the objection in the Office Action should be withdrawn. "Suggestive marks are those that, when applied to the goods or services at issue, require imagination, thought or perception to reach a conclusion as to the nature of those goods or services. Thus, a suggestive term differs from a descriptive term, which immediately tells something about the goods or services." TMEP §1209.01(a) (third paragraph, citations omitted, October, 2011). One example provided by the TMEP is "DRI-FOOT held suggestive of anti-perspirant deodorant for feet". *Id.* "Therefore, a designation does not have to be devoid of all meaning in relation to the goods and services to be registrable." *Id.* (last paragraph). It is noted that the mark AUDIO FIDELITY for phonograph records was held suggestive not descriptive. *Audio Fidelity, Inc. Vv. London Records, Inc.*, 332 F.2d 577, 141 USPQ 792 (CCPA 1964). Clearly, the mark of the present application is suggestive, not merely descriptive. In response to the request in the Office Action, please amend the application to state as follows: The English translation of MAGNESITA in the mark is "magnesite" or "magnesia." In response to the allegation that the present application was filed under Section 1(b), Applicant maintains that the application was filed under Section 1(a). Applicant submits that the application should be approved for publication.	
SIGNATURE SECTION	
RESPONSE SIGNATURE	/Thomas J. Moore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
SIGNATORY'S PHONE NUMBER	703-683-0500
DATE SIGNED	08/14/2013
AUTHORIZED SIGNATORY	YES
FILING INFORMATION SECTION	
SUBMIT DATE	Wed Aug 14 08:11:30 EDT 2013
	USPTO/ROA-XXX.XX.XXX.XX-2 0130814081130951292-85834 316-500e4e4ed596a72fe8b37

TEAS STAMP	6f1a2da5c5204d588fc315df4 95f18abf799761631cc-N/A-N /A-20130814080733544003

PTO Form 1957 (Rev 9/2005)
OMB No. 0651-0050 (Exp. 07/31/2017)

Response to Office Action

To the Commissioner for Trademarks:

Application serial no. **85834316** MAGNESITA(Standard Characters, see http://tess2.uspto.gov/ImageAgent/ImageAgentProxy?getImage=85834316) has been amended as follows:

ARGUMENT(S)
In response to the substantive refusal(s), please note the following:

The Office Action objects to the mark as allegedly, merely descriptive. This objection has been carefully considered. Applicant respectfully submits that the mark is suggestive, not merely descriptive, and that the objection in the Office Action should be withdrawn. "Suggestive marks are those that, when applied to the goods or services at issue, require imagination, thought or perception to reach a conclusion as to the nature of those goods or services. Thus, a suggestive term differs from a descriptive term, which immediately tells something about the goods or services." TMEP §1209.01(a) (third paragraph, citations omitted, October, 2011). One example provided by the TMEP is "DRI-FOOT held suggestive of anti-perspirant deodorant for feet". *Id.* "Therefore, a designation does not have to be devoid of all meaning in relation to the goods and services to be registrable." *Id.* (last paragraph). It is noted that the mark AUDIO FIDELITY for phonograph records was held suggestive not descriptive. *Audio Fidelity, Inc. Vv. London Records, Inc.*, 332 F.2d 577, 141 USPQ 792 (CCPA 1964). Clearly, the mark of the present application is suggestive, not merely descriptive.

In response to the request in the Office Action, please amend the application to state as follows: The English translation of MAGNESITA in the mark is "magnesite" or "magnesia."

In response to the allegation that the present application was filed under Section 1(b), Applicant maintains that the application was filed under Section 1(a).

Applicant submits that the application should be approved for publication.

SIGNATURE(S)
Response Signature
Signature: /Thomas J. Moore/ Date: 08/14/2013
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member

Signatory's Phone Number: 703-683-0500

The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

Serial Number: 85834316
Internet Transmission Date: Wed Aug 14 08:11:30 EDT 2013
TEAS Stamp: USPTO/ROA-XXX.XX.XXX.XX-20130814081130953

1292-85834316-500e4e4ed596a72fe8b376f1a2
da5c5204d588fc315df495f18abf799761631cc-
N/A-N/A-20130814080733544003

To:	Magnesita Refractories Company (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 85834316 - MAGNESITA - MAGN6029/TJM
Sent:	9/9/2013 11:53:31 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

U.S. APPLICATION SERIAL NO. 85834316

MARK: MAGNESITA

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

APPLICANT: Magnesita Refractories Company

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6029/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

85834316

CLICK HERE TO RESPOND TO THIS LETTER:
http://www.uspto.gov/trademarks/teas/response_forms.jsp

OFFICE ACTION

STRICT DEADLINE TO RESPOND TO THIS LETTER

TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER **WITHIN 6 MONTHS** OF THE ISSUE/MAILING DATE BELOW.

ISSUE/MAILING DATE: 9/9/2013

THIS IS A FINAL ACTION

This letter responds to the applicant's correspondence filed on August 14, 2013.

The examining attorney has considered the applicant's arguments carefully, but finds them unpersuasive.

Final Descriptiveness Refusal

In the prior office action the examining attorney refused registration on the Principle Register under Section 2(e)(1) because the proposed mark was merely descriptive when used in connection with the goods and services named in the application.

The applicant's mark is MAGNESITA for "refractory products not primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes; and pre-cast refractory shapes" and "providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus using refractory products; and providing information via a global computer network on the use of mechanical equipment and computer models to construct, maintain and repair refractory installations."

A mark is merely descriptive if it describes an ingredient, quality, characteristic, function, feature, purpose, or use of an applicant's goods and/or services. TMEP §1209.01(b); *see, e.g.*, *DuoProSS Meditech Corp. v. Inviro Med. Devices, Ltd.*, 695 F.3d 1247, 1251, 103 USPQ2d 1753, 1755 (Fed. Cir. 2012) (quoting *In re Oppedahl & Larson LLP*, 373 F.3d 1171, 1173, 71 USPQ2d 1370, 1371 (Fed. Cir. 2004)); *In re Steelbuilding.com*, 415 F.3d 1293, 1297, 75 USPQ2d 1420, 1421 (Fed. Cir. 2005) (citing *Estate of P.D. Beckwith, Inc. v. Comm'r of Patents*, 252 U.S. 538, 543 (1920)).

As was discussed in the prior office action, the term MAGNESITA translates to magnesite. Magnesite is one of the primary components in refractory products. The examining attorney attached excerpts of articles discussing the uses of magnesite in refractory products in the prior office action. This evidence demonstrates that the term is considered descriptive for an important component of the goods and services. Magnesite is also used when the applicant repairs and maintains refractory products.

The examining attorney now attaches copies of two registrations owned by the applicant. U.S. Registration Nos. 4080761 and 2914515 are for MAGNESITA and design and MAGNESITA S.A. MATERIAIS REFRATARIOS and design. In both of these marks the term MAGNESITA has been disclaimed.

A "disclaimer" is a statement in the application record that applicant does not claim exclusive rights to an unregistrable component of a mark; a disclaimer of unregistrable matter does not affect the appearance of the mark or physically remove disclaimed matter from the mark. *See Schwarzkopf v. John H. Breck, Inc*., 340 F.2d 978, 978, 144 USPQ 433, 433 (C.C.P.A. 1965); TMEP §1213. An unregistrable component of a mark includes wording and designs that are merely descriptive, generic, deceptively misdescriptive, primarily geographically descriptive of an applicant's goods and/or services. 15 U.S.C. §1052(e); *see* TMEP §§1209.03(f), 1213.03 *et seq*. Such words or designs need to be freely available for other businesses to market comparable goods or services and should not become the proprietary domain of any one party. *See Dena Corp. v. Belvedere Int'l, Inc.* , 950 F.2d 1555, 1560, 21 USPQ2d 1047, 1051 (Fed. Cir. 1991); *In re Aug. Storck KG,* 218 USPQ 823, 825 (TTAB 1983).

Because the applicant disclaimed the matter in prior marks for similar goods and services, it is evidence that the proposed mark is also descriptive for the goods and services in the current application.

For the above reasons, the refusal under Section 2(e)(1) is maintained and made FINAL.

Supplemental Register Suggested

The applied-for mark has been refused registration on the Principal Register. Applicant may respond to the refusal by submitting evidence and arguments in support of registration and/or by amending the application to seek registration on the Supplemental Register. *See* 15 U.S.C. §1091; 37 C.F.R. §§2.47, 2.75(a); TMEP §§801.02(b), 816. Amending to the Supplemental Register does not preclude applicant from submitting evidence and arguments against the refusal(s). TMEP §816.04.

Final Translation Requirement

In the prior office action the examining attorney required that the applicant translate the mark. The applicant did not respond to the requirement. The requirement is maintained and made FINAL.

The examining attorney attached evidence of the proper translation of the proposed mark. In addition, the prior registrations also contain the proper translation of MAGNESITA.

The English translation of MAGNESITA is "magnesite" or "magnesia."

See 37 C.F.R. §§2.32(a)(9), 2.61(b); TMEP §§809, 809.03

Response Guidelines

Applicant must respond within six months of the date of issuance of this final Office action or the application will be abandoned. 15 U.S.C. §1062(b); 37 C.F.R. §2.65(a). Applicant may respond by providing one or both of the following:

(1) A response that fully satisfies all outstanding requirements;

(2) An appeal to the Trademark Trial and Appeal Board, with the appeal fee of $100 per class.

37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.6(a)(18); TBMP ch. 1200.

In certain rare circumstances, an applicant may respond by filing a petition to the Director pursuant to 37 C.F.R. §2.63(b)(2) to review procedural issues. 37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.146(b); TBMP §1201.05; TMEP §1704 (explaining petitionable matters). The petition fee is $100. 37 C.F.R. §2.6(a)(15).

/Dawn Feldman Lehker/
Trademark Examining Attorney
Law Office 111

U.S. Patent and Trademark Office
(571)272-9381
dawn.feldman-lehker@uspto.gov

TO RESPOND TO THIS LETTER: Go to http://www.uspto.gov/trademarks/teas/response_forms.jsp. Please wait 48-72 hours from the issue/mailing date before using the Trademark Electronic Application System (TEAS), to allow for necessary system updates of the application. For *technical* assistance with online forms, e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned trademark examining attorney. **E-mail communications will not be accepted as responses to Office actions; therefore, do not respond to this Office action by e-mail.**

All informal e-mail communications relevant to this application will be placed in the official application record.

WHO MUST SIGN THE RESPONSE: It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

PERIODICALLY CHECK THE STATUS OF THE APPLICATION: To ensure that applicant does not miss crucial deadlines or official notices, check the status of the application every three to four months using the Trademark Status and Document Retrieval (TSDR) system at http://tsdr.uspto.gov/. Please keep a copy of the TSDR status screen. If the status shows no change for more than six months, contact the Trademark Assistance Center by e-mail at TrademarkAssistanceCenter@uspto.gov or call 1-800-786-9199. For more information on checking status, see http://www.uspto.gov/trademarks/process/status/.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/trademarks/teas/correspondence.jsp.

To:	Magnesita Refractories Company (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 85834316 - MAGNESITA - MAGN6029/TJM
Sent:	9/9/2013 11:53:32 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)

IMPORTANT NOTICE REGARDING YOUR U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION (OFFICIAL LETTER) HAS ISSUED
ON **9/9/2013** FOR U.S. APPLICATION SERIAL NO. 85834316

Please follow the instructions below:

(1) TO READ THE LETTER: Click on this link or go to http://tsdr.uspto.gov, enter the U.S. application serial number, and click on "Documents."

The Office action may not be immediately viewable, to allow for necessary system updates of the application, but will be available within 24 hours of this e-mail notification.

(2) TIMELY RESPONSE IS REQUIRED: Please carefully review the Office action to determine (1) how to respond, and (2) the applicable response time period. Your response deadline will be calculated from **9/9/2013** (*or sooner if specified in the Office action*). For information regarding response time periods, see http://www.uspto.gov/trademarks/process/status/responsetime.jsp.

Do NOT hit "Reply" to this e-mail notification, or otherwise e-mail your response because the USPTO does NOT accept e-mails as responses to Office actions. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System (TEAS) response form located at http://www.uspto.gov/trademarks/teas/response_forms.jsp.

(3) QUESTIONS: For questions about the contents of the Office action itself, please contact the assigned trademark examining attorney. For *technical* assistance in accessing or viewing the Office action in the Trademark Status and Document Retrieval (TSDR) system, please e-mail TSDR@uspto.gov.

WARNING

Failure to file the required response by the applicable response deadline will result in the ABANDONMENT of your application. For more information regarding abandonment, see http://www.uspto.gov/trademarks/basics/abandon.jsp**.**

PRIVATE COMPANY SOLICITATIONS REGARDING YOUR APPLICATION: Private companies **not** associated with the USPTO are using information provided in trademark applications to mail or e-mail trademark-related solicitations. These companies often use names that closely resemble the USPTO and their solicitations may look like an official government document. Many solicitations require that you pay "fees."

Please carefully review all correspondence you receive regarding this application to make sure that you are responding to an official document from the USPTO rather than a private company solicitation. All official USPTO correspondence will be mailed only from the "United States Patent and Trademark Office" in Alexandria, VA; or sent by e-mail from the domain "@uspto.gov." For more information on how to handle private company solicitations, see http://www.uspto.gov/trademarks/solicitation_warnings.jsp.

PTO Form 1957 (Rev 9/2005)
OMB No. 0651-0050 (Exp. 07/31/2017)

Response to Office Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	77873477
LAW OFFICE ASSIGNED	LAW OFFICE 111
MARK SECTION	
MARK	http://tess2.uspto.gov/ImageAgent/ImageAgentProxy?getImage=77873477
LITERAL ELEMENT	MAGNESITA
STANDARD CHARACTERS	YES
USPTO-GENERATED IMAGE	YES
MARK STATEMENT	The mark consists of standard characters, without claim to any particular font style, size or color.
ARGUMENT(S)	
The Office Action objects to the identification of goods in Class 19 as being indefinite. Applicant maintains that the identification of goods is in full compliance with the statute and regulations, but in order to expedite the application, please amend the identification of goods as stated herein and as suggested by the Office Action to add "not made primarily of metal." Applicant declines the invitation to add Class 6 to the application. Applicant makes the present amendment of the identification of goods without surrendering any of the scope of the previous identification of goods. Thus, if any further amendments are required in order to obtain approval, then Applicant is entitled to the full scope of the previous identification of goods. At the time that the application is approved, Applicant surrenders the scope of the previous identification of goods to the extent that it exceeds the approved identification of goods. The mark has been in substantially exclusive and continuous use in commerce in the United States by Applicant as a trademark and service mark, from a date at least as early as October 1, 2010 (for Class 19), and May 5, 2011 (for Class 37), through the undersigned date. Applicant submits that the Section 2(f) claim is fully supported by evidence of acquired distinctiveness, and the objection thereto should be withdrawn. Applicant submits that the application should be approved for publication.	
GOODS AND/OR SERVICES SECTION (019)(current)	
INTERNATIONAL CLASS	019
DESCRIPTION	
Refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes	
FILING BASIS	Section 1(a)
FIRST USE ANYWHERE DATE	At least as early as 10/01/2010
FIRST USE IN COMMERCE DATE	At least as early as 10/01/2010
GOODS AND/OR SERVICES SECTION (019)(proposed)	
INTERNATIONAL CLASS	019
TRACKED TEXT DESCRIPTION	

~~Refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes~~; Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes	
FINAL DESCRIPTION	
Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes	
FILING BASIS	Section 1(a)
FIRST USE ANYWHERE DATE	At least as early as 10/01/2010
FIRST USE IN COMMERCE DATE	At least as early as 10/01/2010
GOODS AND/OR SERVICES SECTION (037)(no change)	
SIGNATURE SECTION	
RESPONSE SIGNATURE	/Thomas J. Moore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
SIGNATORY'S PHONE NUMBER	703-683-0500
DATE SIGNED	09/20/2013
AUTHORIZED SIGNATORY	YES
FILING INFORMATION SECTION	
SUBMIT DATE	Fri Sep 20 11:04:40 EDT 2013
TEAS STAMP	USPTO/ROA-XXX.XX.XXX.XX-2 0130920110440890155-77873 477-500472b8f7bbbe4a15558 6189d2524d3b47c8569eb3ddd 45f73cf728165c9d07be3-N/A -N/A-20130920105821413685

PTO Form 1957 (Rev 9/2005)
OMB No. 0651-0050 (Exp. 07/31/2017)

Response to Office Action

To the Commissioner for Trademarks:

Application serial no. **77873477** MAGNESITA(Standard Characters, see http://tess2.uspto.gov/ImageAgent/ImageAgentProxy?getImage=77873477) has been amended as follows:

ARGUMENT(S)
In response to the substantive refusal(s), please note the following:

The Office Action objects to the identification of goods in Class 19 as being indefinite. Applicant maintains that the identification of goods is in full compliance with the statute and regulations, but in order to expedite the application, please amend the identification of goods as stated herein and as suggested by the Office Action to add "not made primarily of metal." Applicant declines the invitation to add Class 6 to the application.

Applicant makes the present amendment of the identification of goods without surrendering any of the scope of the previous identification of goods. Thus, if any further amendments are required in order to obtain approval, then Applicant is entitled to the full scope of the previous identification of goods. At the time that the application is approved, Applicant surrenders the scope of the previous identification of goods to the

extent that it exceeds the approved identification of goods.

The mark has been in substantially exclusive and continuous use in commerce in the United States by Applicant as a trademark and service mark, from a date at least as early as October 1, 2010 (for Class 19), and May 5, 2011 (for Class 37), through the undersigned date.

Applicant submits that the Section 2(f) claim is fully supported by evidence of acquired distinctiveness, and the objection thereto should be withdrawn.

Applicant submits that the application should be approved for publication.

CLASSIFICATION AND LISTING OF GOODS/SERVICES
Applicant proposes to amend the following class of goods/services in the application:
Current: Class 019 for Refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes
Original Filing Basis:
Filing Basis: Section 1(a), Use in Commerce: The applicant is using the mark in commerce, or the applicant's related company or licensee is using the mark in commerce, on or in connection with the identified goods and/or services. 15 U.S.C. Section 1051(a), as amended. The mark was first used at least as early as 10/01/2010 and first used in commerce at least as early as 10/01/2010 , and is now in use in such commerce.

Proposed:
Tracked Text Description: ~~Refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes~~; Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes

Class 019 for Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes
Filing Basis: Section 1(a), Use in Commerce: The applicant is using the mark in commerce, or the applicant's related company or licensee is using the mark in commerce, on or in connection with the identified goods and/or services. 15 U.S.C. Section 1051(a), as amended. The mark was first used at least as early as 10/01/2010 and first used in commerce at least as early as 10/01/2010 , and is now in use in such commerce.
SIGNATURE(S)
Response Signature
Signature: /Thomas J. Moore/ Date: 09/20/2013
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member

Signatory's Phone Number: 703-683-0500

The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

Serial Number: 77873477
Internet Transmission Date: Fri Sep 20 11:04:40 EDT 2013
TEAS Stamp: USPTO/ROA-XXX.XX.XXX.XX-2013092011044089
0155-77873477-500472b8f7bbbe4a155586189d
2524d3b47c8569eb3ddd45f73cf728165c9d07be
3-N/A-N/A-20130920105821413685

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	10/4/2013 10:48:18 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

U.S. APPLICATION SERIAL NO. 77873477

MARK: MAGNESITA

77873477

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

CLICK HERE TO RESPOND TO THIS LETTER:
http://www.uspto.gov/trademarks/teas/response_forms.jsp

APPLICANT: MAGNESITA REFRACTORIES COMPANY

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6002/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

OFFICE ACTION

STRICT DEADLINE TO RESPOND TO THIS LETTER

TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER **WITHIN 6 MONTHS** OF THE ISSUE/MAILING DATE BELOW.

ISSUE/MAILING DATE: 10/4/2013

THIS IS A FINAL ACTION.

This letter responds to the applicant's correspondence filed on September 20, 2013 and on September 30, 2013.

The amendment to the identification of goods has been made of record.

The FINAL refusal under Section 2(e)(1) is maintained.

Final-Section 2(f) Claim Fails

In the prior office action the examining attorney refused the applicant's Section 2(f) claim because the applicant did not met the requirements for a Section 2(f) claim of acquired distinctiveness. The applicant responded by submitting an affidavit that the applicant has been using the proposed mark on goods since October 1, 2010 and in connection with services on May 5, 2011. The length of use and the type of evidence is insufficient to claim acquired distinctiveness under Section 2(f). The refusal of the applicant's Section 2(f) claim is maintained and made FINAL.

The applicant attempted to claim Section 2(f) based on actual evidence of secondary meaning. TMEP Section 1212.06 states that "in considering a claim of acquired distinctiveness, the issue is whether acquired distinctiveness of the mark in relation to the goods or services has in fact been established in the minds of the purchasing public, not whether the mark is capable of becoming distinctive. In re Redken Labs., Inc., 170 USPQ 526, 528 (TTAB 1971); In re Fleet-Wing Corp., 122 USPQ 335, 335 (TTAB 1959)."
The applicant submitted a foreign registration for the proposed mark as well as the applicant's own website. The applicant has only been using this mark in connection with the goods since October of 2010 and with respect to the services May 5, 2011. This is a very short timeline for the

applicant to have established secondary meaning.

In determining whether the proposed mark has acquired distinctiveness, the following factors are generally considered: (1) length and exclusivity of use of the mark in the United States by applicant; (2) the type, expense and amount of advertising of the mark in the United States; and (3) applicant's efforts in the United States to associate the mark with the source of the goods and/or services, such as unsolicited media coverage and consumer studies. *See In re Steelbuilding.com*, 415 F.3d 1293, 1300, 75 USPQ2d 1420, 1424 (Fed. Cir. 2005). A showing of acquired distinctiveness need not consider all of these factors, and no single factor is determinative. *In re Steelbuilding.com*, 415 F.3d at 1300, 75 USPQ2d at 1424; *see* TMEP §§1212 *et seq.*

Evidence of acquired distinctiveness may include specific dollar sales under the mark, advertising figures, samples of advertising, consumer or dealer statements of recognition of the mark as a source identifier, affidavits, and any other evidence that establishes the distinctiveness of the mark as an indicator of source. *See* 37 C.F.R. §2.41(a); *In re Ideal Indus., Inc.*, 508 F.2d 1336, 184 USPQ 487 (C.C.P.A. 1975); *In re Instant Transactions Corp.*, 201 USPQ 957 (TTAB 1979); TMEP §§1212.06 *et seq.*

As discussed above, the applicant has not been using the mark for very long in the United States. There is no evidence of the extent of the applicant's advertising expenditures in the United States nor is there any evidence that the purchasing public recognizes the applicant's mark with the source of the goods and services.

For the above reasons the refusal of the Section 2(f) claim is made FINAL and the Section 2(e)(1) refusal is also FINAL.

Response Guidelines

Applicant must respond within six months of the date of issuance of this final Office action or the application will be abandoned. 15 U.S.C. §1062(b); 37 C.F.R. §2.65(a). Applicant may respond by providing one or both of the following:

(1) A response that fully satisfies all outstanding requirements;

(2) An appeal to the Trademark Trial and Appeal Board, with the appeal fee of $100 per class.

37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.6(a)(18); TBMP ch. 1200.

In certain rare circumstances, an applicant may respond by filing a petition to the Director pursuant to 37 C.F.R. §2.63(b)(2) to review procedural issues. 37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.146(b); TBMP §1201.05; TMEP §1704 (explaining petitionable matters). The petition fee is $100. 37 C.F.R. §2.6(a)(15).

/Dawn Feldman Lehker/
Trademark Examining Attorney
Law Office 111
U.S. Patent and Trademark Office
(571)272-9381
dawn.feldman-lehker@uspto.gov

TO RESPOND TO THIS LETTER: Go to http://www.uspto.gov/trademarks/teas/response_forms.jsp. Please wait 48-72 hours from the issue/mailing date before using the Trademark Electronic Application System (TEAS), to allow for necessary system updates of the application. For *technical* assistance with online forms, e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned trademark examining attorney. **E-mail communications will not be accepted as responses to Office actions; therefore, do not respond to this Office action by e-mail.**

All informal e-mail communications relevant to this application will be placed in the official application record.

WHO MUST SIGN THE RESPONSE: It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

PERIODICALLY CHECK THE STATUS OF THE APPLICATION: To ensure that applicant does not miss crucial deadlines or official notices, check the status of the application every three to four months using the Trademark Status and Document Retrieval (TSDR) system at http://tsdr.uspto.gov/. Please keep a copy of the TSDR status screen. If the status shows no change for more than six months, contact the Trademark Assistance Center by e-mail at TrademarkAssistanceCenter@uspto.gov or call 1-800-786-9199. For more information on checking status, see http://www.uspto.gov/trademarks/process/status/.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/trademarks/teas/correspondence.jsp.

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	10/4/2013 10:48:19 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)

IMPORTANT NOTICE REGARDING YOUR U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION (OFFICIAL LETTER) HAS ISSUED
ON **10/4/2013** FOR U.S. APPLICATION SERIAL NO. 77873477

Please follow the instructions below:

(1) TO READ THE LETTER: Click on this link or go to http://tsdr.uspto.gov, enter the U.S. application serial number, and click on "Documents."

The Office action may not be immediately viewable, to allow for necessary system updates of the application, but will be available within 24 hours of this e-mail notification.

(2) TIMELY RESPONSE IS REQUIRED: Please carefully review the Office action to determine (1) how to respond, and (2) the applicable response time period. Your response deadline will be calculated from **10/4/2013** (*or sooner if specified in the Office action*). For information regarding response time periods, see http://www.uspto.gov/trademarks/process/status/responsetime.jsp.

Do NOT hit "Reply" to this e-mail notification, or otherwise e-mail your response because the USPTO does NOT accept e-mails as responses to Office actions. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System (TEAS) response form located at http://www.uspto.gov/trademarks/teas/response_forms.jsp.

(3) QUESTIONS: For questions about the contents of the Office action itself, please contact the assigned trademark examining attorney. For *technical* assistance in accessing or viewing the Office action in the Trademark Status and Document Retrieval (TSDR) system, please e-mail TSDR@uspto.gov.

WARNING

Failure to file the required response by the applicable response deadline will result in the ABANDONMENT of your application. For more information regarding abandonment, see http://www.uspto.gov/trademarks/basics/abandon.jsp**.**

PRIVATE COMPANY SOLICITATIONS REGARDING YOUR APPLICATION: Private companies **not** associated with the USPTO are using information provided in trademark applications to mail or e-mail trademark-related solicitations. These companies often use names that closely resemble the USPTO and their solicitations may look like an official government document. Many solicitations require that you pay "fees."

Please carefully review all correspondence you receive regarding this application to make sure that you are responding to an official document from the USPTO rather than a private company solicitation. All official USPTO correspondence will be mailed only from the "United States Patent and Trademark Office" in Alexandria, VA; or sent by e-mail from the domain "@uspto.gov." For more information on how to handle private company solicitations, see http://www.uspto.gov/trademarks/solicitation_warnings.jsp.

PTO Form 1960 (Rev 9/2007)
OMB No. 0651-0050 (Exp. 07/31/2017)

Request for Reconsideration after Final Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	85834316
LAW OFFICE ASSIGNED	LAW OFFICE 111
MARK SECTION	
MARK	http://tess2.uspto.gov/ImageAgent/ImageAgentProxy?getImage=85834316
LITERAL ELEMENT	MAGNESITA
STANDARD CHARACTERS	YES
USPTO-GENERATED IMAGE	YES
MARK STATEMENT	The mark consists of standard characters, without claim to any particular font style, size or color.
ARGUMENT(S)	

Applicant hereby asserts acquired distinctiveness under Section 2(f) of the Lanham Act, as amended, to overcome the allegation in the final Office Action of September 9, 2013, that the mark is merely descriptive of the goods and services.

The mark has been in substantially exclusive and continuous use in commerce since at least as early as October 1, 2010, by Applicant (including related companies). Applicant owns Canadian Registration No. TMA834,948 of the trademark MAGNESITA (Exhibit A hereto is a copy of the registration).

The final Office Action appears to rely on the doctrine of foreign equivalents. See Trademark Manual of Examining Procedure (TMEP) Sections 1207.01(b)(vi), 1209.03(g), and 1210.10 (Oct. 2013). Generally speaking, "under the doctrine of foreign equivalents, a foreign word (from a language familiar to an appreciable segment of American consumers) and the English equivalent may be held to be confusingly similar." TMEP 1207.01(b)(vi) (Oct. 2013) (first paragraph).

> "Although words from modern languages are generally translated into English, the doctrine of foreign equivalents is not an absolute rule, but merely a guideline. The doctrine should be applied only when it is likely that the ordinary American purchaser would stop and translate the foreign word into its English equivalent."

TMEP Section 1209.03(g) (Oct. 2013) (second paragraph). However, the Office Actions in this case do not appear to cite a case where the doctrine has been applied in the context of an assertion of acquired distinctiveness under Section 2(f), as distinguished from a refusal under Section 2(e) of the Lanham Act.

Applicant submits that the present amendment to Section 2(f) is fully responsive to the final Office Action, and if the Office considers the existing evidence of acquired distinctiveness to be inadequate, then a new, non-final Office Action should be issued. TMEP §1212.02(h), third paragraph (October, 2013).

> "The mere assertion of distinctiveness under §2(f) raises a new issue. See In re Educational Communications, Inc., 231 USPQ 787, 787 n.2 (TTAB 1986). Even if the applicant has submitted, in support of the §2(f) claim, a statement of five years' use that is technically defective (e.g., not verified or comprising incorrect language), the assertion of §2(f) distinctiveness still constitutes a new issue.

TMEP §1212.02(h), fourth paragraph (October, 2013). Applicant submits that the evidence of acquired distinctiveness is sufficient to approved the Section 2(f) claim.

Applicant submits that the application should be approved for publication.

EVIDENCE SECTION

EVIDENCE FILE NAME(S)	
ORIGINAL PDF FILE	evi_1-1731015681-092759645_._.03.06_Exhibit_A_-_Canada_-_Reg._No._TMA834_948_of_MAGNESITA.pdf
CONVERTED PDF FILE(S) (2 pages)	\\TICRS\EXPORT16\IMAGEOUT16\858\343\85834316\xml7\RFR0002.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\858\343\85834316\xml7\RFR0003.JPG
DESCRIPTION OF EVIDENCE FILE	Exhibit A, Canadian Registration No. TMA834,948 as referenced in this Response
ADDITIONAL STATEMENTS SECTION	
SECTION 2(f) Claim of Acquired Distinctiveness, BASED ON EVIDENCE	The mark has become distinctive of the goods/services, as demonstrated by the attached evidence.
2(f) EVIDENCE FILE NAME(S)	
ORIGINAL PDF FILE	e2f-1731015681-133159378_._2014.03.06_Declaration_of_Moore_Under_Section_2_f_.85834316.pdf
CONVERTED PDF FILE(S) (1 page)	\\TICRS\EXPORT16\IMAGEOUT16\858\343\85834316\xml7\RFR0004.JPG
SIGNATURE SECTION	
RESPONSE SIGNATURE	/Thomas J. Moore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
SIGNATORY'S PHONE NUMBER	703-683-0500
DATE SIGNED	03/06/2014
AUTHORIZED SIGNATORY	YES
CONCURRENT APPEAL NOTICE FILED	NO
FILING INFORMATION SECTION	
SUBMIT DATE	Thu Mar 06 13:43:07 EST 2014
TEAS STAMP	USPTO/RFR-XXX.XX.XXX.XX-2 0140306134307672776-85834 316-500ac4fbbd4d3f731e587 73b6b27deec3abac52ae8f203 295325c70ce4853d1f4-N/A-N /A-20140306133159378417

PTO Form 1960 (Rev 9/2007)
OMB No. 0651-0050 (Exp. 07/31/2017)

Request for Reconsideration after Final Action

To the Commissioner for Trademarks:

Application serial no. **85834316** MAGNESITA(Standard Characters, see http://tess2.uspto.gov/ImageAgent/ImageAgentProxy?getImage=85834316) has been amended as follows:

ARGUMENT(S)
In response to the substantive refusal(s), please note the following:

Applicant hereby asserts acquired distinctiveness under Section 2(f) of the Lanham Act, as amended, to overcome the allegation in the final

Office Action of September 9, 2013, that the mark is merely descriptive of the goods and services.

The mark has been in substantially exclusive and continuous use in commerce since at least as early as October 1, 2010, by Applicant (including related companies). Applicant owns Canadian Registration No. TMA834,948 of the trademark MAGNESITA (Exhibit A hereto is a copy of the registration).

The final Office Action appears to rely on the doctrine of foreign equivalents. See Trademark Manual of Examining Procedure (TMEP) Sections 1207.01(b)(vi), 1209.03(g), and 1210.10 (Oct. 2013). Generally speaking, "under the doctrine of foreign equivalents, a foreign word (from a language familiar to an appreciable segment of American consumers) and the English equivalent may be held to be confusingly similar." TMEP 1207.01(b)(vi) (Oct. 2013) (first paragraph).

> "Although words from modern languages are generally translated into English, the doctrine of foreign equivalents is not an absolute rule, but merely a guideline. The doctrine should be applied only when it is likely that the ordinary American purchaser would stop and translate the foreign word into its English equivalent."

TMEP Section 1209.03(g) (Oct. 2013) (second paragraph). However, the Office Actions in this case do not appear to cite a case where the doctrine has been applied in the context of an assertion of acquired distinctiveness under Section 2(f), as distinguished from a refusal under Section 2(e) of the Lanham Act.

Applicant submits that the present amendment to Section 2(f) is fully responsive to the final Office Action, and if the Office considers the existing evidence of acquired distinctiveness to be inadequate, then a new, non-final Office Action should be issued. TMEP §1212.02(h), third paragraph (October, 2013).

> "The mere assertion of distinctiveness under §2(f) raises a new issue. See In re Educational Communications, Inc., 231 USPQ 787, 787 n.2 (TTAB 1986). Even if the applicant has submitted, in support of the §2(f) claim, a statement of five years' use that is technically defective (e.g., not verified or comprising incorrect language), the assertion of §2(f) distinctiveness still constitutes a new issue.

TMEP §1212.02(h), fourth paragraph (October, 2013). Applicant submits that the evidence of acquired distinctiveness is sufficient to approved the Section 2(f) claim.

Applicant submits that the application should be approved for publication.

EVIDENCE
Evidence in the nature of Exhibit A, Canadian Registration No. TMA834,948 as referenced in this Response has been attached.
Original PDF file:
evi_1-1731015681-092759645_._.03.06_Exhibit_A_-_Canada_-_Reg._No._TMA834_948_of_MAGNESITA.pdf
Converted PDF file(s) (2 pages)
Evidence-1
Evidence-2

ADDITIONAL STATEMENTS
SECTION 2(f) Claim of Acquired Distinctiveness, BASED ON EVIDENCE
The mark has become distinctive of the goods/services, as demonstrated by the attached evidence.

Original PDF file:
e2f-1731015681-133159378_._2014.03.06_Declaration_of_Moore_Under_Section_2_f_.85834316.pdf
Converted PDF file(s) (1 page)
2(f) evidence-1

SIGNATURE(S)
Request for Reconsideration Signature
Signature: /Thomas J. Moore/ Date: 03/06/2014
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member

Signatory's Phone Number: 703-683-0500

The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

The applicant is not filing a Notice of Appeal in conjunction with this Request for Reconsideration.

Serial Number: 85834316
Internet Transmission Date: Thu Mar 06 13:43:07 EST 2014
TEAS Stamp: USPTO/RFR-XXX.XX.XXX.XX-2014030613430767
2776-85834316-500ac4fbbd4d3f731e58773b6b
27deec3abac52ae8f203295325c70ce4853d1f4-
N/A-N/A-20140306133159378417

Exhibit A
to the Request for Reconsideration
in U.S. Appl. No. 85834316

Office de la propriété intellectuelle du Canada
Un organisme d'Industrie Canada

Canadian Intellectual Property Office
An Agency of Industry Canada

Marques de commerce

Certificat d'enregistrement

La présente atteste que la marque de commerce identifiée dans l'extrait ci-joint, tiré du registre des marques de commerce, a été enregistrée et que ledit extrait est une copie conforme de l'inscription de son enregistrement. Conformément aux dispositions de la *Loi sur les marques de commerce*, cette marque de commerce est renouvelable tous les quinze ans à compter de la date d'enregistrement.

Trade-marks

Certificate of Registration

This is to certify that the trade-mark, identified in the attached extract from the register of trade-marks, has been registered and that the said extract is a true copy of the record of its registration. In accordance with the provisions of the *Trade-marks Act*, this trade-mark is subject to renewal every 15 years from the registration date.

MAGNESITA

Numéro d'enregistrement
Registration Number **TMA834,948**

Numéro de dossier
File Number **1477870**

Registraire des marques de commerce
Registrar of Trade-marks

Date d'enregistrement
Registration Date **24 oct/Oct 2012**

Canada

OPIC CIPO

APPL'N/DEM. NO 1 477 870 REGISTRATION/ENREGISTREMENT NO TMA834,948

FILING DATE/DATE DE PRODUCTION:	**21 avr/Apr 2010**
REGISTRATION DATE/DATE D'ENREGISTREMENT:	**24 oct/Oct 2012**
PRIORITY FILING DATE/DATE DE PRIORITÉ DE PRODUCTION:	**(see below/voir ci-dessous)**

REGISTRANT/PROPRIÉTAIRE ORIGINAL:
MAGNESITA REFRACTORIES COMPANY
a Pennsylvania corporation
P.O. Box 7708
York, Pennsylvania 17404
UNITED STATES OF AMERICA

REP FOR SERVICE/REP POUR SIGNIFICATION:
RIDOUT & MAYBEE LLP
225 King Street West
10th Floor
TORONTO
ONTARIO M5V 3M2

TRADE-MARK/MARQUE DE COMMERCE:

MAGNESITA

TRANSLATION - TRANSLITERATION/TRADUCTION - TRANSLITTÉRATION

The translation provided by the applicant of the word(s) Magnesita is Magnesite in english.

WARES/MARCHANDISES:

Refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes.

SERVICES:

Providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus.

CLAIMS/REVENDICATIONS:

Used in CANADA since at least as early as March 26, 2010 on wares and on services.

Priority Filing Date: November 16, 2009, Country: UNITED STATES OF AMERICA, Application No: 77/873,477 in association with the same kind of wares and in association with the same kind of services.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.:	**85834316**
Application Filing Date:	January 28, 2013
Mark:	Magnesita
Applicant:	Magnesita Refractories Company
Attorney Ref:	MAGN6029/TJM

DECLARATION OF MOORE UNDER SECTION 2(F)

Commissioner for Trademarks
P.O. Box 1451
Alexandria, VA 22313-1451

Madam:

The undersigned, being hereby warned that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and may jeopardize the validity of the application or any registration resulting therefrom, declares that:

1. All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true.
2. The mark has been in substantially exclusive and continuous use in commerce in the United States by Applicant as a trademark for the goods in Class 19 from a date at least as early as October 1, 2010, through the undersigned date.
3. The mark has been in substantially exclusive and continuous use in commerce in the United States by Applicant as a service mark for the services in Class 37 from a date at least as early as October 1, 2010, through the undersigned date.

Respectfully signed,

Date: March 6, 2014

/Thomas J. Moore/

Thomas J. Moore
Owner's Attorney, Va. Bar Member

\\VAFS01\Data\Producer\tjm\ep\MAGN6029\2014.03.06 Declaration of Moore Under Section 2(f).85834316.wpd

PTO Form 1960 (Rev 9/2007)
OMB No. 0651-0050 (Exp. 07/31/2017)

Request for Reconsideration after Final Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	77873477
LAW OFFICE ASSIGNED	LAW OFFICE 111
MARK SECTION	
MARK	http://tsdr.uspto.gov/img/77873477/large
LITERAL ELEMENT	MAGNESITA
STANDARD CHARACTERS	YES
USPTO-GENERATED IMAGE	YES
MARK STATEMENT	The mark consists of standard characters, without claim to any particular font style, size or color.
ARGUMENT(S)	

The only issue is whether Applicant has submitted sufficient evidence in support of the Section 2(f) claim. Applicant submits herewith a Declaration of Gross Sales, which recites an extraordinary amount of continuous use of the mark:

> The gross sales of refractory products under the trademark MAGNESITA from May 1 to December 31, 2010 were in excess of 280,000 metric tons and US$103,000,000 for domestic production. The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2011 were in excess of 440,000 metric tons and US$200,000,000 for domestic production. The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2012 were in excess of 500,000 metric tons and US$200,000,000 for domestic production.

In addition, Applicant owns Canadian Registration No. TMA834,948 of the trademark MAGNESITA (Exhibit A hereto is a copy of the registration).

The final Office Action appears to rely on the doctrine of foreign equivalents. See Trademark Manual of Examining Procedure (TMEP) Sections 1207.01(b)(vi), 1209.03(g), and 1210.10 (Oct. 2013). Generally speaking, "under the doctrine of foreign equivalents, a foreign word (from a language familiar to an appreciable segment of American consumers) and the English equivalent may be held to be confusingly similar." TMEP 1207.01(b)(vi) (Oct. 2013) (first paragraph).

> "Although words from modern languages are generally translated into English, the doctrine of foreign equivalents is not an absolute rule, but merely a guideline. The doctrine should be applied only when it is likely that the ordinary American purchaser would stop and translate the foreign word into its English equivalent."

TMEP Section 1209.03(g) (Oct. 2013) (second paragraph). However, the Office Actions in this case do not appear to cite a case where the doctrine has been applied in the context of an assertion of acquired distinctiveness under Section 2(f).

Applicant amends the date of first use for Classes 19 and 37 to 2008 as supported by article "Magnesita buys LWB" dated October, 2008 in the trade publication *Industrial Minerals* (see the attached Exhibit B). This article includes an interview with an executive of the buyer that clearly created an association between "Magnesita" and Applicant. This is "use analogous to trademark use" that was "calculated to attract the attention of potential customers," and therefore, a basis for priority.

> Use analogous to trademark use must be of "such a nature and extent as to create an association of said [term] with a single source ... sufficient to create a proprietary right in the user deserving of protection." Era Corp. v. Electronic Realty Associates, Inc., 211 USPQ 734, 745 (TTAB 1981). The manner of use must be "calculated to attract the attention of potential customers or customers in the applicable field of trade" so as to create an association of the term with a single source, even if anonymous. Liqwacon Corp. v.

Browning-Ferris Industries, Inc., 203 USPQ 305, 308 (TTAB 1979).

See *Dyneer Corporation V. Automotive Products, PLC*, 37 U.S.P.Q.2d 1251, 1995 WL 785742 (TTAB 1995). A "prior use becomes an analogous use sufficient to create proprietary rights," when the prior use is "sufficient to create an association in the minds of the purchasing public between the mark and the petitioner's goods." *Herbko International, Inc. V. Kappa Books, Inc.*, 308 F.3d 1156, 1162 (Fed. Cir. 2002); *accord, Malcolm Nicol & Co., Inc. V. Witco Corporation*, 881 F.2d 1063 (Fed. Cir. 1989). This association was clearly established because Applicant had already been selling refractory products for many years, at the time of the article in 2008. The purchase of Applicant was followed by implementation of a new business name and a new trademark.

The change of Applicant's name from LWB Refractories Company to Magnesita Refractories Company was publicly filed November 30, 2009, as shown by the Declaration of Change of Name filed herewith. Subsequently, Applicant commenced use of the trademark on the goods as shown by the specimens and other evidence already of record.

Please consider this a request for reconsideration. Applicant believes that this submission places the case in conditional for approval. In the alternative, Applicant submits that a new issue has been raised by the presently submitted evidence of use, and that a new, non-final Office Action should be issued, in accord with TMEPâ€€§715.03(b) (October, 2013).

Applicant submits that the application should be approved for publication.

EVIDENCE SECTION	
EVIDENCE FILE NAME(S)	
ORIGINAL PDF FILE	evi_1731015681-174138672_._2014-03-14_Exhibit_A_-_Canada_-_Registration_No._TMA834_948.pdf
CONVERTED PDF FILE(S) (2 pages)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml12\RFR0002.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml12\RFR0003.JPG
ORIGINAL PDF FILE	evi_1731015681-174138672_._t_B_-_2008_article_Magnesita_buys_LWB_in_Industrial_Minerals.pdf
CONVERTED PDF FILE(S) (2 pages)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml12\RFR0004.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml12\RFR0005.JPG
ORIGINAL PDF FILE	evi_1731015681-174138672_._2014-03-14_signed_Declaration_of_Gross_Sales.77873477.pdf
CONVERTED PDF FILE(S) (2 pages)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml12\RFR0006.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml12\RFR0007.JPG
ORIGINAL PDF FILE	evi_1731015681-174138672_._2014-03-14_signed_Declaration_of_Change_of_Name.77873477.pdf
CONVERTED PDF FILE(S) (3 pages)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml12\RFR0008.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml12\RFR0009.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml12\RFR0010.JPG
DESCRIPTION OF EVIDENCE FILE	Canadian Reg. No. TMA834948; "Magnesita buys LWB"; Declaration of Change of Name; and Declaration of Gross Sales.
GOODS AND/OR SERVICES SECTION (019)(current)	
INTERNATIONAL CLASS	019
DESCRIPTION	
Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes	
FILING BASIS	Section 1(a)
FIRST USE ANYWHERE DATE	At least as early as 10/01/2010

FIRST USE IN COMMERCE DATE	At least as early as 10/01/2010
GOODS AND/OR SERVICES SECTION (019)(proposed)	
INTERNATIONAL CLASS	019
DESCRIPTION	
Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes	
FILING BASIS	Section 1(a)
FIRST USE ANYWHERE DATE	At least as early as 10/00/2008
FIRST USE IN COMMERCE DATE	At least as early as 10/00/2008
GOODS AND/OR SERVICES SECTION (037)(current)	
INTERNATIONAL CLASS	037
DESCRIPTION	
Providing information via a global computer network on constructing, maintaining, and repairing refractory apparatus using refractory products	
FILING BASIS	Section 1(a)
FIRST USE ANYWHERE DATE	At least as early as 05/05/2011
FIRST USE IN COMMERCE DATE	At least as early as 05/05/2011
GOODS AND/OR SERVICES SECTION (037)(proposed)	
INTERNATIONAL CLASS	037
DESCRIPTION	
Providing information via a global computer network on constructing, maintaining, and repairing refractory apparatus using refractory products	
FILING BASIS	Section 1(a)
FIRST USE ANYWHERE DATE	At least as early as 10/00/2008
FIRST USE IN COMMERCE DATE	At least as early as 10/00/2008
SIGNATURE SECTION	
DECLARATION SIGNATURE	/Thomas J. Moore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
SIGNATORY'S PHONE NUMBER	703-683-0500 x137
DATE SIGNED	03/14/2014
RESPONSE SIGNATURE	/Thomas J. Moore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
SIGNATORY'S PHONE NUMBER	703-683-0500 x137
DATE SIGNED	03/14/2014
AUTHORIZED SIGNATORY	YES
CONCURRENT APPEAL NOTICE FILED	NO
FILING INFORMATION SECTION	

SUBMIT DATE	Fri Mar 14 18:00:27 EDT 2014
TEAS STAMP	USPTO/RFR-XXX.XX.XXX.XX-2 0140314180027962414-77873 477-50025a4d95629b21521e1 e5785e05d273e94af727399a1 32b8c2c6180c431899e-N/A-N /A-20140314174138672000

PTO Form 1960 (Rev 9/2007)
OMB No. 0651-0050 (Exp. 07/31/2017)

Request for Reconsideration after Final Action

To the Commissioner for Trademarks:

Application serial no. **77873477** MAGNESITA(Standard Characters, see http://tsdr.uspto.gov/img/77873477/large) has been amended as follows:

ARGUMENT(S)
In response to the substantive refusal(s), please note the following:

The only issue is whether Applicant has submitted sufficient evidence in support of the Section 2(f) claim. Applicant submits herewith a Declaration of Gross Sales, which recites an extraordinary amount of continuous use of the mark:

> The gross sales of refractory products under the trademark MAGNESITA from May 1 to December 31, 2010 were in excess of 280,000 metric tons and US$103,000,000 for domestic production. The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2011 were in excess of 440,000 metric tons and US$200,000,000 for domestic production. The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2012 were in excess of 500,000 metric tons and US$200,000,000 for domestic production.

In addition, Applicant owns Canadian Registration No. TMA834,948 of the trademark MAGNESITA (Exhibit A hereto is a copy of the registration).

The final Office Action appears to rely on the doctrine of foreign equivalents. See Trademark Manual of Examining Procedure (TMEP) Sections 1207.01(b)(vi), 1209.03(g), and 1210.10 (Oct. 2013). Generally speaking, "under the doctrine of foreign equivalents, a foreign word (from a language familiar to an appreciable segment of American consumers) and the English equivalent may be held to be confusingly similar." TMEP 1207.01(b)(vi) (Oct. 2013) (first paragraph).

> "Although words from modern languages are generally translated into English, the doctrine of foreign equivalents is not an absolute rule, but merely a guideline. The doctrine should be applied only when it is likely that the ordinary American purchaser would stop and translate the foreign word into its English equivalent."

TMEP Section 1209.03(g) (Oct. 2013) (second paragraph). However, the Office Actions in this case do not appear to cite a case where the doctrine has been applied in the context of an assertion of acquired distinctiveness under Section 2(f).

Applicant amends the date of first use for Classes 19 and 37 to 2008 as supported by article "Magnesita buys LWB" dated October, 2008 in the trade publication *Industrial Minerals* (see the attached Exhibit B). This article includes an interview with an executive of the buyer that clearly created an association between "Magnesita" and Applicant. This is "use analogous to trademark use" that was "calculated to attract the attention of potential customers," and therefore, a basis for priority.

> Use analogous to trademark use must be of "such a nature and extent as to create an association of said [term] with a single source ... sufficient to create a proprietary right in the user deserving of protection." Era Corp. v. Electronic Realty Associates, Inc., 211 USPQ 734, 745 (TTAB 1981). The manner of use must be "calculated to attract the attention of potential customers or customers in the applicable field of trade" so as to create an association of the term with a single source, even if anonymous. Liqwacon Corp. v. Browning-Ferris Industries,

Inc., 203 USPQ 305, 308 (TTAB 1979).

See *Dyneer Corporation V. Automotive Products, PLC*, 37 U.S.P.Q.2d 1251, 1995 WL 785742 (TTAB 1995). A "prior use becomes an analogous use sufficient to create proprietary rights," when the prior use is "sufficient to create an association in the minds of the purchasing public between the mark and the petitioner's goods." *Herbko International, Inc. V. Kappa Books, Inc.*, 308 F.3d 1156, 1162 (Fed. Cir. 2002); *accord, Malcolm Nicol & Co., Inc. V. Witco Corporation*, 881 F.2d 1063 (Fed. Cir. 1989). This association was clearly established because Applicant had already been selling refractory products for many years, at the time of the article in 2008. The purchase of Applicant was followed by implementation of a new business name and a new trademark.

The change of Applicant's name from LWB Refractories Company to Magnesita Refractories Company was publicly filed November 30, 2009, as shown by the Declaration of Change of Name filed herewith. Subsequently, Applicant commenced use of the trademark on the goods as shown by the specimens and other evidence already of record.

Please consider this a request for reconsideration. Applicant believes that this submission places the case in conditional for approval. In the alternative, Applicant submits that a new issue has been raised by the presently submitted evidence of use, and that a new, non-final Office Action should be issued, in accord with TMEPâ€€§715.03(b) (October, 2013).

Applicant submits that the application should be approved for publication.

EVIDENCE
Evidence in the nature of Canadian Reg. No. TMA834948; "Magnesita buys LWB"; Declaration of Change of Name; and Declaration of Gross Sales. has been attached.
Original PDF file:
evi_1731015681-174138672_._2014-03-14_Exhibit_A_-_Canada_-_Registration_No._TMA834_948.pdf
Converted PDF file(s) (2 pages)
Evidence-1
Evidence-2
Original PDF file:
evi_1731015681-174138672_._t_B_-_2008_article_Magnesita_buys_LWB_in_Industrial_Minerals.pdf
Converted PDF file(s) (2 pages)
Evidence-1
Evidence-2
Original PDF file:
evi_1731015681-174138672_._2014-03-14_signed_Declaration_of_Gross_Sales.77873477.pdf
Converted PDF file(s) (2 pages)
Evidence-1
Evidence-2
Original PDF file:
evi_1731015681-174138672_._2014-03-14_signed_Declaration_of_Change_of_Name.77873477.pdf
Converted PDF file(s) (3 pages)
Evidence-1
Evidence-2
Evidence-3

CLASSIFICATION AND LISTING OF GOODS/SERVICES
Applicant proposes to amend the following class of goods/services in the application:
Current: Class 019 for Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes
Original Filing Basis:
Filing Basis: Section 1(a), Use in Commerce: The applicant is using the mark in commerce, or the applicant's related company or licensee is using the mark in commerce, on or in connection with the identified goods and/or services. 15 U.S.C. Section 1051(a), as amended. The mark was first used at least as early as 10/01/2010 and first used in commerce at least as early as 10/01/2010 , and is now in use in such commerce.

Proposed: Class 019 for Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes
Filing Basis: Section 1(a), Use in Commerce: The applicant is using the mark in commerce, or the applicant's related company or licensee is using the mark in commerce, on or in connection with the identified goods and/or services. 15 U.S.C. Section 1051(a), as amended. The mark was first used at least as early as 10/00/2008 and first used in commerce at least as early as 10/00/2008 , and is now in use in such commerce.

Applicant proposes to amend the following class of goods/services in the application:
Current: Class 037 for Providing information via a global computer network on constructing, maintaining, and repairing refractory apparatus using refractory products
Original Filing Basis:
Filing Basis: Section 1(a), Use in Commerce: The applicant is using the mark in commerce, or the applicant's related company or licensee is using the mark in commerce, on or in connection with the identified goods and/or services. 15 U.S.C. Section 1051(a), as amended. The mark was first used at least as early as 05/05/2011 and first used in commerce at least as early as 05/05/2011 , and is now in use in such commerce.

Proposed: Class 037 for Providing information via a global computer network on constructing, maintaining, and repairing refractory apparatus using refractory products
Filing Basis: Section 1(a), Use in Commerce: The applicant is using the mark in commerce, or the applicant's related company or licensee is using the mark in commerce, on or in connection with the identified goods and/or services. 15 U.S.C. Section 1051(a), as amended. The mark was first used at least as early as 10/00/2008 and first used in commerce at least as early as 10/00/2008 , and is now in use in such commerce.
SIGNATURE(S)
Declaration Signature
If the applicant is seeking registration under Section 1(b) and/or Section 44 of the Trademark Act, the applicant has had a bona fide intention to use or use through the applicant's related company or licensee the mark in commerce on or in connection with the identified goods and/or services as of the filing date of the application. 37 C.F.R. Secs. 2.34(a)(2)(i); 2.34 (a)(3)(i); and 2.34(a)(4)(ii); and/or the applicant has had a bona fide intention to exercise legitimate control over the use of the mark in commerce by its members. 37 C.F. R. Sec. 2.44. If the applicant is seeking registration under Section 1(a) of the Trademark Act, the mark was in use in commerce on or in connection with the goods and/or services listed in the application as of the application filing date or as of the date of any submitted allegation of use. 37 C.F.R. Secs. 2.34(a)(1)(i); and/or the applicant has exercised legitimate control over the use of the mark in commerce by its members. 37 C.F.R. Sec. 2.44. The undersigned, being hereby warned that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. Section 1001, and that such willful false statements may jeopardize the validity of the application or any resulting registration, declares that he/she is properly authorized to execute this application on behalf of the applicant; he/she believes the applicant to be the owner of the trademark/service mark sought to be registered, or, if the application is being filed under 15 U.S.C. Section 1051(b), he/she believes applicant to be entitled to use such mark in commerce; to the best of his/her knowledge and belief no other person, firm, corporation, or association has the right to use the mark in commerce, either in the identical form thereof or in such near resemblance thereto as to be likely, when used on or in connection with the goods/services of such other person, to cause confusion, or to cause mistake, or to deceive; that if the original application was submitted unsigned, that all statements in the original application and this submission made of the declaration signer's knowledge are true; and all statements in the original application and this submission made on information and belief are believed to be true.

Signature: /Thomas J. Moore/ Date: 03/14/2014
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member
Signatory's Phone Number: 703-683-0500 x137

Request for Reconsideration Signature
Signature: /Thomas J. Moore/ Date: 03/14/2014
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member

Signatory's Phone Number: 703-683-0500 x137

The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

The applicant is not filing a Notice of Appeal in conjunction with this Request for Reconsideration.

Serial Number: 77873477
Internet Transmission Date: Fri Mar 14 18:00:27 EDT 2014
TEAS Stamp: USPTO/RFR-XXX.XX.XXX.XX-2014031418002796
2414-77873477-50025a4d95629b21521e1e5785
e05d273e94af727399a132b8c2c6180c431899e-

N/A-N/A-20140314174138672000

Office de la propriété intellectuelle du Canada
Un organisme d'Industrie Canada

Canadian Intellectual Property Office
An Agency of Industry Canada

Marques de commerce

Certificat d'enregistrement

La présente atteste que la marque de commerce identifiée dans l'extrait ci-joint, tiré du registre des marques de commerce, a été enregistrée et que ledit extrait est une copie conforme de l'inscription de son enregistrement. Conformément aux dispositions de la *Loi sur les marques de commerce*, cette marque de commerce est renouvelable tous les quinze ans à compter de la date d'enregistrement.

Trade-marks

Certificate of Registration

This is to certify that the trade-mark, identified in the attached extract from the register of trade-marks, has been registered and that the said extract is a true copy of the record of its registration. In accordance with the provisions of the *Trade-marks Act*, this trade-mark is subject to renewal every 15 years from the registration date.

MAGNESITA

Numéro d'enregistrement / Registration Number: **TMA834,948**

Numéro de dossier / File Number: **1477870**

Registraire des marques de commerce
Registrar of Trade-marks

Date d'enregistrement / Registration Date: **24 oct/Oct 2012**

Canada

OPIC CIPO

APPL'N/DEM. NO 1 477 870 **REGISTRATION/ENREGISTREMENT NO TMA834,948**

FILING DATE/DATE DE PRODUCTION:	**21 avr/Apr 2010**
REGISTRATION DATE/DATE D'ENREGISTREMENT:	**24 oct/Oct 2012**
PRIORITY FILING DATE/DATE DE PRIORITÉ DE PRODUCTION:	**(see below/voir ci-dessous)**

REGISTRANT/PROPRIÉTAIRE ORIGINAL:
MAGNESITA REFRACTORIES COMPANY
a Pennsylvania corporation
P.O. Box 7708
York, Pennsylvania 17404
UNITED STATES OF AMERICA

REP FOR SERVICE/REP POUR SIGNIFICATION:
RIDOUT & MAYBEE LLP
225 King Street West
10th Floor
TORONTO
ONTARIO M5V 3M2

TRADE-MARK/MARQUE DE COMMERCE:

MAGNESITA

TRANSLATION - TRANSLITERATION/TRADUCTION - TRANSLITTÉRATION

The translation provided by the applicant of the word(s) Magnesita is Magnesite in english.

WARES/MARCHANDISES:

Refractory products, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes.

SERVICES:

Providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus.

CLAIMS/REVENDICATIONS:

Used in CANADA since at least as early as March 26, 2010 on wares and on services.

Priority Filing Date: November 16, 2009, Country: UNITED STATES OF AMERICA, Application No: 77/873,477 in association with the same kind of wares and in association with the same kind of services.

Magnesita buys LWB

Refractory dolomite: LWB's mine in York, Pennsylvania, USA.

Brazil's leading magnesite producer acquires German dolomite and refractories group, gaining a global customer base and raw material supply

by Kwok W Wan, *Assistant Editor*

LEADING BRAZILIAN MAGNESITE produc er, Magnesita Refratários SA, has acquired Germany based refractory dolomite producer, LWB Refractories GmbH, creating the third largest refractories group (by revenue) in the world, after Vesuvius and RHI AG (*see table*).

Magnesita's deal with Rhone Capital LLC, a private equity group with majority shareholdings in LWB, includes $392m. cash and Magnesita assuming a $538m. debt.

The move is seen as part of Magnesita's expansion plan to target customers outside its core market in South America to the global market, focusing on LWB's client base in China, Europe and the USA.

"This is a milestone in Magnesita's strategy to accelerate its international growth," said Ronaldo Iabrudi, chief executive officer of Magnesita.

In Brazil, Magnesita controls 70% of the steel refractories market and 80% of the cement refractories market, while the majority of LWB's sales are in Europe and the USA. Magnesita expects the acquisition of LWB will result in a wider spread of customers across a broad geographical base in South America, Europe, and the USA (*see chart*).

LWB leads world refractory dolomite production with an estimated 260-280,000 tpa combined capacity in Europe, sourcing dolomite raw material from mines in Belgium and Germany, and a further 150,000 tpa refractory dolomite from its York, Pennsylvania operation in the USA. It also runs a 55,000 tpa refractory dolomite plant in Chizhou, Anhui province, China.

"The LWB expansion gives us the opportunity for considerable growth in China, where we plan to double capacity of the existing LWB refractories plants to 180,000 tpa," said Iabrudi.

Magnesita also intends to increase magnesite production to meet demands in Asia.

Maurício Lustosa de Castro, chief financial officer of Magnesita, told **IM**: "To supply Asian clients with the amount of products they are demanding, we will have to make strong investments at Brumado mine [in north-east Brazil] in order to increase the production capacity currently at 320,000 tpa."

LWB has an overall refractory products manufacturing capacity of 700,000 tpa, with manufacturing facilities in China, France, Germany, and the USA. The total H1 2008 refractories output from both companies was 1.1m. tonnes.

No.1 by 2012

Magnesita believes the deal will have nearly no overlaps in terms of sales, but plenty of scope for raw material and upstream integrations.

"[There will be] no other company like ours in the refractory industry," said Castro, in a conference call.

According to Castro, LWB consumes 80-100,000 tpa of sintered or electro fused magnesite and accounts for 18% of sales, which Magnesita could now supply. Magnesita also manufactures dolomite products, so could now exploit LWB's raw material reserves in Europe and the USA.

Magnesita's upstream synergy plans could involve combining LWB's magnesite operations into Magnesita's Brazilian plants, while LWB facilities focus solely on dolomite products. It estimates synergies could save $35.5m. per annum.

The acquisition will also allow Magnesita to offer a range of magnesite and dolomite products to its combined customer base, including large clients currently supplied by LWB, but not by Magnesita and vice versa. These include LWB's long established relationships with stainless and carbon steel producers.

"[It's an] awesome opportunity for cross selling," said Castro.

Magnesita has set targets to be the largest refractories producer (by revenue) in the world by 2012. Domestic refractories demand is expected to be driven by the Brazilian steel industry, with steel demand predicted to grow by 13% this year according to the Brazilian Steel Institute.

Securing feedstock

The world's second largest refractories producer, Vienna based RHI, has also revealed intentions to expand via acquisitions, with focus on mineral producers.

"We have several projects under consideration," said Andreas Meier, RHI chief executive officer, adding: "A key area in this context is raw materials, not only magnesite and dolomite, but also bauxite and melting raw materials."

RHI and Tata Refractories Ltd have already announced magnesite projects in China, in an attempt to secure supplies (see p.8). Magnesita's acquisition of LWB is the

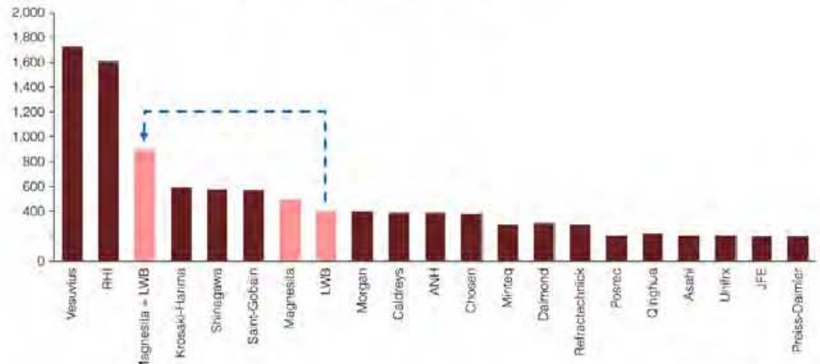
Brazilian's first foray into China in terms of raw materials.

Before this deal, Magnesita was recently secured by GP Investments Ltd (see *IM September '07, p.29*) and had announced plans to triple dead burned magnesia capacity (DBM; currently 320,000 tpa) and double refractories production (currently 590,000 tpa; see *IM September '08, p.28*).

DBM accounts for 10% of Magnesita's sales and the company believes demand is strong, representing a good opportunity. "Even if we see a slight slowdown in steel demand growth, refractories demand is still set for significant growth," said Iabrudi of Magnesia.

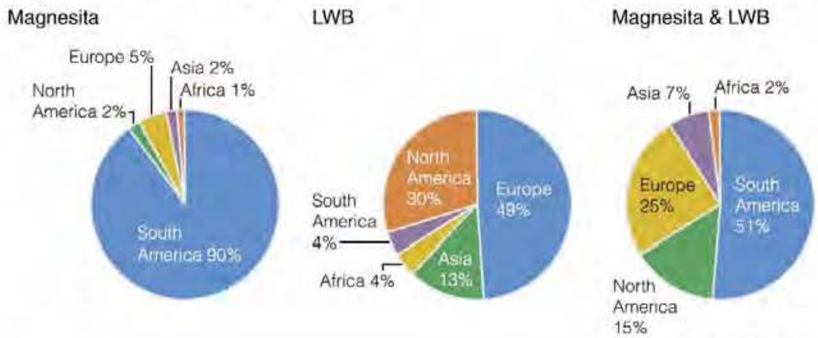
Supplies of magnesite have been tight as the world's leading producer, China, has used licences and quotas to reduce exports of the refractory mineral. This has lead to a raft of producers outside China announcing capacity expansions to meet demand (see *IM September '08, p.28*).

Top refractories companies by revenues (million euros)



Courtesy Magnesita

Combined customer base of Magnesita and LWB



Courtesy Magnesita

Companies in the News

20 Microns	14	DuPont	11	Noralf	17
Agrium	13	EDF	10	Nordic Mining ASA	11
Alcoa	17	Fluorsid	16	Potash Corp. of Saskatchewan	13
Alfluorco	17	Galaxy Resources Ltd	11	PricewaterhouseCoopers	24
Almatis	20	Gansu Kunlun	17	QB Industrias SAB de CV	16
American Iron & Steel Inst.	9	General Motors	11	RHI AG	6,8
Angang Steel Co.	33	Gulf Fluor	17	Rhone Capital	6
Artikol	25	Hunan Xiang Lv	17	Richards Bay Minerals	25
Australian China Clays Ltd	12	IDC	17	Rio Tinto Alcan	17,21
Austpac Resources NL	25	Iluka	27	Rio Tinto Plc	20,25,33
Bai Yin Fluoride	17	Industrial Quimica de Mexico SA	16	Roskill Information Services	11
Baosteel Group	33	JP Morgan	13	Sichuan Sheng Ni Kei Guorun	11
Bemax Resources	25	Kaolin AD	12	Societes des Industries Chimique du Fluor	16
BHP Billiton	25,33	Keliber	11	SQM	10,11
Boliden Odda	16	Kenmare Resources	27	Steel Authority of India	8
Bollore Group	10	Lehman Brothers	9,29,31	Talison Minerals	11
Buss Chem	17	LWB Refractories GmbH	6,8	Tata Group	11
Carnegie Minerals	25,27	Magnesita Refratarios SA	6,8	Tata Refractories Ltd	6,8
Casagrande Pisos Ceramicos	30	Mesa Uranium Corp.	13	Tata Steel	8
Ceramica Atlas	30	Metorex	17	Tertiary Minerals	20
Ceramica Batistella Ltda	30	Minerals Corp. Ltd	12	Titanium Resources Group	11,27
Ceusa-Ceramica Urussanga	30	Minmet Financing Co.	16	TRU Group	11
Chemetall	11	Mitsubishi Corp.	10	USGS	25
China Gengsheng Minerals	33	Monto Minerals	24	Vergenoeg Mining Co.	17
China National Offshore Oil Corp.	34	Mosaic	13	Western Potash Corp.	13
China National Petroleum Corp.	34	Mountain Capital Inc.	13	Whitemud Resources	12
China Petroleum and Chemical Corp.	34	National Titanium Dioxide Co.	25	Wolkem	14
Consolidated Rutile Ltd	27	New World Resource	10	Xinyu Abrasives Co. Ltd	33
Derivados des Fluor	17	Nitro Quimica Brasileira	17	Zibo Nanhan Fluoride	17
DFD Chemical Co.	17				

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.:	**77873477**
Application Filing Date:	November 16, 2009
Mark:	Magnesita
Applicant:	Magnesita Refractories Company
Attorney Ref:	MAGN6002/TJM

DECLARATION OF GROSS SALES

Commissioner for Trademarks
P.O. Box 1451
Alexandria, VA 22313-1451

Madam:

The undersigned, being hereby warned that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and may jeopardize the validity of the application or any registration resulting therefrom, declares that:

1. All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true.

2. The gross sales of refractory products under the trademark MAGNESITA from May 1 to December 31, 2010 were in excess of 280,000 metric tons and US$103,000,000 for domestic production.

3. The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2011 were in excess of 440,000 metric tons and US$200,000,000 for domestic production.

DECLARATION OF GROSS SALES
U.S. Application No. 77873477

4. The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2012 were in excess of 500,000 metric tons and US$200,000,000 for domestic production.

Respectfully signed,

Date: March 14, 2014

Name and Title: Kelly L. Myers
General Counsel

\\VAFS01\Data\Producer\tjm\ep\MAGN6002\2014-03-13 Declaration of Gross Sales.77873477.wpd

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.:	**77873477**
Application Filing Date:	November 16, 2009
Mark:	Magnesita
Applicant:	Magnesita Refractories Company
Attorney Ref:	MAGN6002/TJM

DECLARATION OF CHANGE OF NAME

Commissioner for Trademarks
P.O. Box 1451
Alexandria, VA 22313-1451

Madam:

The undersigned, being hereby warned that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and may jeopardize the validity of the application or any registration resulting therefrom, declares that:

1. All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true.
2. The attached Exhibit A is copy of the change of name of Applicant from LWB Refractories Company to Magnesita Refractories Company signed on November 20, 2009, and filed with the Corporation Bureau of the Pennsylvania Department of State on November 30, 2009.

Respectfully signed,

Date: March 14, 2014

Name and Title: Kelly L. Myers
General Counsel

\\VAFS01\Data\Producer\tjm\ep\MAGN6002\2014-03-13 Declaration of Change of Name.77873477.wpd

Entity #: 25440
Date Filed: 11/30/2009
Pedro A. Cortés
Secretary of the Commonwealth

Exhibit A (page 1 of 2) to the Declaration of Change of Name
U.S. Application No. 77873477

PENNSYLVANIA DEPARTMENT OF STATE
CORPORATION BUREAU

Articles of Amendment-Domestic Corporation
(15 Pa.C.S.)

☑ Business Corporation (§ 1915)
☐ Nonprofit Corporation (§ 5915)

Name
Kelly L. Myers c/o Magnesita
Address
425 South Salem Church Road

City	State	Zip Code
York	PA	17408

Document will be returned to the name and address you enter to the left.
⇐

Commonwealth of Pennsylvania
ARTICLES OF AMENDMENT-BUSINESS 3 Page(s)

T0933560037

Fee: $70

In compliance with the requirements of the applicable provisions (relating to articles of amendment), the undersigned, desiring to amend its articles, hereby states that:

1. The name of the corporation is:
LWB Refractories Company

2. The (a) address of this corporation's current registered office in this Commonwealth or (b) name of its commercial registered office provider and the county of venue is (the Department is hereby authorized to correct the following information to conform to the records of the Department):

(a) Number and Street	City	State	Zip	County
425 South Salem Church Rd.	York	PA	17408	York

(b) Name of Commercial Registered Office Provider — County
c/o

3. The statute by or under which it was incorporated: Pennsylvania Business Corporation Law

4. The date of its incorporation: December 22, 1941

5. *Check, and if appropriate complete, one of the following:*

☑ The amendment shall be effective upon filing these Articles of Amendment in the Department of State.

☐ The amendment shall be effective on: ____________ at ____________
Date Hour

2009 NOV 30 PM 3:43

PA DEPT OF STATE

DSCB:15-1915/5915-2

Exhibit A (page 2 of 2) to the Declaration of Change of Name
U.S. Application No. 77873477

6. *Check one of the following:*

☐ The amendment was adopted by the shareholders or members pursuant to 15 Pa.C.S. § 1914(a) and (b) or § 5914(a).

☑ The amendment was adopted by the board of directors pursuant to 15 Pa. C.S. § 1914(c) or § 5914(b).

7. *Check, and if appropriate, complete one of the following:*

☑ The amendment adopted by the corporation, set forth in full, is as follows

Article I of the Corporation's Articles of Incorporation is amended to read as follows: "1. The name of the corporation is: Magnesita Refractories Company."

☐ The amendment adopted by the corporation is set forth in full in Exhibit A attached hereto and made a part hereof.

8. *Check if the amendment restates the Articles:*

☐ The restated Articles of Incorporation supersede the original articles and all amendments thereto.

IN TESTIMONY WHEREOF, the undersigned corporation has caused these Articles of Amendment to be signed by a duly authorized officer thereof this

20th day of November,

2009.

LWB Refractories Company
Name of Corporation

Signature

Vice President
Title

To:	Magnesita Refractories Company (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 85834316 - MAGNESITA - MAGN6029/TJM
Sent:	3/26/2014 10:35:17 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	Attachment - 1 Attachment - 2 Attachment - 3 Attachment - 4 Attachment - 5 Attachment - 6 Attachment - 7 Attachment - 8 Attachment - 9 Attachment - 10 Attachment - 11 Attachment - 12 Attachment - 13 Attachment - 14 Attachment - 15 Attachment - 16 Attachment - 17 Attachment - 18 Attachment - 19 Attachment - 20 Attachment - 21 Attachment - 22 Attachment - 23 Attachment - 24 Attachment - 25 Attachment - 26 Attachment - 27 Attachment - 28 Attachment - 29 Attachment - 30 Attachment - 31 Attachment - 32

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

U.S. APPLICATION SERIAL NO. 85834316

MARK: MAGNESITA

85834316

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

CLICK HERE TO RESPOND TO THIS LETTER:
http://www.uspto.gov/trademarks/teas/response_forms.jsp

APPLICANT: Magnesita Refractories Company

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6029/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

OFFICE ACTION

STRICT DEADLINE TO RESPOND TO THIS LETTER

TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER **WITHIN 6 MONTHS** OF THE ISSUE/MAILING DATE BELOW.

ISSUE/MAILING DATE: 3/26/2014

This letter responds to the applicant's correspondence filed on March 6, 2014.

The applicant's response raises a new issue; therefore, this action is non-final in nature.

The refusal under Section 2

Section 2(f) Claim Fails

Applicant has asserted acquired distinctiveness based on the evidence of record; however, such evidence is not sufficient to show acquired distinctiveness because, as demonstrated by the attached and previously attached evidence, applicant's mark is of a highly descriptive nature. *See* 15 U.S.C. §1052(e)(1), (f); *In re MetPath, Inc.*, 1 USPQ2d 1750, 1751-52 (TTAB 1986); TMEP §1212.04(a). Additional evidence is needed.

As discussed in prior office actions, the term MAGNESITA is translated as magnesite. The term magnesita is Portuguese. The applicant is a Brazilian company. Portuguese is not an obscure language.

The examining attorney has attached excerpts of different scientific dictionaries and other reference books that discuss magnesite, magnesia or magnesium. These terms are used interchangeably. All of these dictionaries reference the fact that this compound is the primary component of refractory products. The applicant's goods and services are for refractory products or for services relating to refractories or refractory products.

When asserting a Trademark Act Section 2(f) claim, the burden of proving that a mark has acquired distinctiveness is on the applicant. *Yamaha Int'l Corp. v. Yoshino Gakki Co.*, 840 F.2d 1572, 1578-79, 6 USPQ2d 1001, 1004 (Fed. Cir. 1988); *In re Meyer & Wenthe, Inc.*, 267 F.2d 945, 948, 122 USPQ 372, 375 (C.C.P.A. 1959); TMEP §1212.01. Thus, applicant must establish that the purchasing public has come to view the proposed mark as an indicator of origin.

In the present case, applicant's evidence consists of the following: a copy of a Canadian registration. This evidence is insufficient to show acquired distinctiveness of the proposed mark because the fact that the applicant has a Canadian registration is completely irrelevant in establishing acquired distinctiveness in the United States. Furthermore, the applicant only claims use since October of 2010, which is only approximately 3 ½ years of use.

To support the claim of acquired distinctiveness, applicant may respond by submitting additional evidence. *In re Half Price Books, Records, Magazines, Inc.*, 225 USPQ 219, 220 n.2 (TTAB 1984); TMEP §1212.02(g). Such evidence may include specific dollar sales under the mark, advertising figures, samples of advertising, consumer or dealer statements of recognition of the mark as a source identifier, affidavits, and any other evidence that establishes the distinctiveness of the mark as an indicator of source. *See* 37 C.F.R. §2.41(a); *In re Ideal Indus., Inc.*, 508 F.2d 1336, 1339-40, 184 USPQ 487, 489-90 (C.C.P.A. 1975); *In re Instant Transactions Corp. of Am.*, 201 USPQ 957, 958-59 (TTAB 1979); TMEP §§1212.06 *et seq.*

If additional evidence is submitted, the following factors are generally considered when determining whether a proposed mark acquired distinctiveness based on extrinsic evidence: (1) length and exclusivity of use of the mark in the United States by applicant; (2) the type, expense, and amount of advertising of the mark in the United States; and (3) applicant's efforts in the United States to associate the mark with the source of the goods and/or services, such as unsolicited media coverage and consumer studies. *See In re Steelbuilding.com*, 415 F.3d 1293, 1300, 75 USPQ2d 1420, 1424 (Fed. Cir. 2005); *Bd. of Trs. v. Pitts, Jr.*, 107 USPQ2d 2001, 2016 (TTAB 2013). A showing of acquired distinctiveness need not consider all these factors, and no single factor is determinative. *In re Steelbuilding.com*, 415 F.3d at 1300, 75 USPQ2d at 1424; *see* TMEP §§1212.06 *et seq.* The USPTO will decide each case on its own merits.

If applicant cannot submit additional evidence to support the claim of acquired distinctiveness, applicant may respond to the refusal by arguing in support of registration and/or amending the application to seek registration on the Supplemental Register. *See* 15 U.S.C. §1091; 37 C.F.R.

§§2.47, 2.75(a); TMEP §§801.02(b), 816. If applicant amends the application to the Supplemental Register, applicant is not precluded from submitting evidence and arguments against this refusal. TMEP §816.04.

For the above reasons, the claim of acquired distinctiveness under Section 2(f) is refused.

/Dawn Feldman Lehker/
Trademark Examining Attorney
Law Office 111
U.S. Patent and Trademark Office
(571)272-9381
dawn.feldman-lehker@uspto.gov

TO RESPOND TO THIS LETTER: Go to http://www.uspto.gov/trademarks/teas/response_forms.jsp. Please wait 48-72 hours from the issue/mailing date before using the Trademark Electronic Application System (TEAS), to allow for necessary system updates of the application. For *technical* assistance with online forms, e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned trademark examining attorney. **E-mail communications will not be accepted as responses to Office actions; therefore, do not respond to this Office action by e-mail.**

All informal e-mail communications relevant to this application will be placed in the official application record.

WHO MUST SIGN THE RESPONSE: It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

PERIODICALLY CHECK THE STATUS OF THE APPLICATION: To ensure that applicant does not miss crucial deadlines or official notices, check the status of the application every three to four months using the Trademark Status and Document Retrieval (TSDR) system at http://tsdr.uspto.gov/. Please keep a copy of the TSDR status screen. If the status shows no change for more than six months, contact the Trademark Assistance Center by e-mail at TrademarkAssistanceCenter@uspto.gov or call 1-800-786-9199. For more information on checking status, see http://www.uspto.gov/trademarks/process/status/.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/trademarks/teas/correspondence.jsp.

"Maglite" ***[Hall].*** (magnesium oxide). CAS: 1309-48-4. TM for acid acceptor and stabilizer.
Use: In rubber, plastic thickener filler, and smoke suppressant.

mag-lith. A magnesium-lithium alloy used as a structural metal in space vehicles.

magma. (1) In medicine, a class of preparations in which finely divided, freshly precipitated, insoluble, inorganic hydroxides are suspended in water to form a viscous, opaque mixture that may settle out on standing. Magmas of bismuth, magnesium, and iron are used, commonly called milk of bismuth, milk of magnesia, etc. (2) In geology, a molten mass within the earth's crust (e.g., lava). The source of igneous rock.

magnalium. An alloy of aluminum and magnesium.

magnesia. Magnesium oxide that has been specially processed.
See magnesium oxide.

magnesia alba. See magnesium carbonate; magnesium carbonate, basic.

magnesia-alumina. $MgO{\bullet}Al_2O_3$. A synthetic spinel.

magnesia, burnt. See magnesite, dead-burned.

magnesia, calcined. See magnesite, caustic-calcined.

magnesia, caustic-calcined. See magnesite, caustic-calcined.

magnesia-chromia. $MgO{\bullet}Cr_2O_3$. A synthetic spinel.

magnesia, dead-burned. See magnesite, dead-burned.

magnesia, fused. Used as a refractory and to handle electricity at high temperatures.

magnesia, lightburned. A special high-purity magnesium oxide.

magnesite. (natural magnesium carbonate). CAS: 546-93-0. ($MgCO_3$). The term magnesite is loosely used as a synonym for magnesia as are also the terms *caustic-calcined magnesite, dead-burned magnesite,* and *synthetic magnesite.*
Hazard: A nuisance particulate.
Properties: White, yellowish, grayish-white, or brown crystalline solid. D 3–3.12, Mohs hardness 3.5–4.5.
Occurrence: U.S. (California, Washington, Nevada), Austria, Greece.
Use: To make the various grades of magnesium oxide, to produce carbon dioxide, refractory.
Hazard: TLV: 10 mg/m^3.
See magnesium carbonate.

magnesite, burnt. See magnesite, dead-burned.

magnesite, caustic-calcined. (caustic-calcined magnesia; calcined magnesite; calcined magnesia. Principally magnesia (magnesium oxide) MgO). The product obtained by firing magnesite or other substances convertible to magnesia upon heating at some temperature below 1450C so that some carbon dioxide is retained (2–10%) and the magnesium oxide displays adsorptive capacity or activity.
Grade: Technical, chemical, synthetic rubber, USP (light, medium light, heavy).
Use: Magnesium oxychloride and oxysulfate cements, 85% magnesia insulation, rubber (reinforcing agent, accelerator), uranium processing, chemical processing, rayon, refractories, paper pulp, acid-neutralizing fertilizers, welding-rod coatings, fillers, glass constituents, abrasives.
See magnesium oxide.

magnesite, dead-burned. (burnt magnesia; dead-burned magnesia; refractory magnesia; burnt magnesite; magnesium oxide). MgO. The granular product obtained by burning (firing) magnesite or other substances convertible to magnesia upon heating above 1450C long enough to form granules suitable for use as a refractory (ASTM). Synthetic magnesium hydroxide or chloride is sometimes used instead of magnesite as a source.
Grade: 85–87% (from magnesite ores); 97–99% (from seawater and brines).
Use: Refractories, as grains or basic brick, the latter especially in open hearth furnaces for steel, furnaces for nonferrous metal smelting, and in cement and other kilns.
See magnesium oxide.

magnesite, synthetic. Magnesium oxide, MgO, as obtained from seawater, seawater bitterns, or well brines. The preliminary product is usually magnesium hydroxide or chloride, which is then heated, or sometimes treated with steam and heated in the case of the chloride, to obtain the oxide. Synthetic magnesite constitutes the purer grades of dead-burned magnesite.

magnesium.
CAS: 7439-95-4. Mg. Metallic element of atomic number 12, group IIA of the periodic table, aw 24.305, valence = 2; 3 isotopes. Magnesium is the central element of the chlorophyll molecule; it is also an important component of red blood corpuscles.

Properties: Colorless crystals. Soluble in water; insoluble in alcohol and ether. Combustible.
Derivation: Action of formic acid on magnesium oxide.
Use: Analytical chemistry.

magnesium gluconate. $Mg(C_6H_{11}O_7)_2 \cdot 2H_2O$.
Properties: White powder or fine needles; odorless; almost tasteless. Soluble in water. Combustible.
Derivation: Magnesia or magnesium carbonate dissolved in gluconic acid.
Grade: Pharmaceutical.
Use: Medicine, vitamin tablets.

magnesium glycerophosphate. (magnesium glycerinophosphate).
$CH_2(OH)CH(OH)CH_2OP(O)O_2Mg$.
Properties: Colorless powder. Soluble in water; insoluble in alcohol. Combustible.
Derivation: Action of glycerophosphoric acid on magnesium hydroxide.
Use: Stabilizer for plastics.

magnesium hydrogen phosphate. See magnesium phosphate, dibasic.

magnesium hydroxide. (magnesium hydrate in aqueous suspension; milk of magnesia; magnesia magma).
CAS: 1309-42-8. $Mg(OH)_2$.
Properties: White powder; odorless. D 2.36, mp decomposes at 350C. Soluble in solution of ammonium salts and dilute acids; almost insoluble in water and alcohol. Noncombustible.
Derivation: Precipitation from a solution of a magnesium salt by sodium hydroxide, precipitation from seawater with lime. It occurs naturally as brucite.
Grade: Technical, NF, FCC.
Use: Intermediate for obtaining magnesium metal, sugar refining, medicine (antacid, laxative), residual fuel oil additive, sulfite pulp, uranium processing, dentrifrices, in foods as drying agent, color retention agent, frozen desserts.

magnesium lauryl sulfate.
$Mg(OSO_3C_{12}H_{25})_2$.
Properties: Pale yellow liquid; mild odor. Soluble in methanol, acetone, and water; insoluble in kerosene. Combustible.
Derivation: Sulfonation of lauryl alcohol and interaction with a magnesium salt.
Use: Surfactant and anionic detergent, foaming, wetting, and emulsifying agent.

magnesium lime. Same as magnesium limestone.
See limestone.

magnesium limestone. See limestone.

magnesium methoxide. (magnesium methylate). $(CH_3O)_2Mg$.
Properties: Colorless, crystalline solid. Decomposes on warming.
Derivation: Reaction of magnesium and methanol.
Use: Dielectric coating, cross-linking agent to form stable gels, catalyst.

magnesium methylate. See magnesium methoxide.

magnesium molybdate. $MgMoO_4$.
Properties: Crystalline powder. Absolute d 2.8, mp approximately 1060C. Soluble in water.
Use: Electronic and optical applications.

magnesium nitrate.
CAS: 10377-60-3. $Mg(NO_3)_2 \cdot 2H_2O$.
Properties: White crystals. D 1.45, mp 95–100C, decomposes at 330C. Soluble in water and alcohol; deliquescent.
Derivation: Action of nitric acid on magnesium oxide with subsequent crystallization.
Hazard: Dangerous fire and explosion risk in contact with organic materials, strong oxidizing agent.
Use: Pyrotechnics.

magnesium oleate. $Mg(C_{18}H_{33}O_2)_2$.
Properties: Yellowish mass. Soluble in linseed oil, hydrocarbons, alcohol, and ether; insoluble in water. Combustible.
Derivation: Interaction of magnesium chloride and sodium oleate.
Use: Varnish driers, in dry-cleaning solvents (to prevent spontaneous ignition), emulsifying agent, lubricant for plasticizers.

magnesium orthophosphate. See magnesium phosphate.

magnesium oxide. (magnesia).
CAS: 1309-48-4. MgO. Two forms are produced, one a light, fluffy material prepared by a relatively low-temperature dehydration of the hydroxide, the other a dense material made by high-temperature furnacing of the oxide after it has been formed from the carbonate or hydroxide.
See periclase.
Properties: White powder, either light or heavy depending upon whether it is prepared by heating magnesium carbonate or the basic magnesium carbonate. D approximately 0.36 (varies), mp 2800C, bp 3600C. Slightly soluble in water; soluble in acids and ammonium salt solutions. Noncombustible.
Derivation: (1) By calcining magnesium carbonate or magnesium hydroxide, (2) by treating magnesium chloride with lime and heating or by heating it in air, (3) from seawater via the hydroxide.
Grade: Technical, CP, USS, FCC, 99.5%, fused, low boron, rubber, semiconductor, single crystals.
Hazard: Toxic by inhalation of fume. TLV: 10 $mg(Mg)/m^3$ (fume).
Use: Refractories, especially for steel furnace linings, polycrystalline ceramic for aircraft wind-

shields, electrical insulation, pharmaceuticals and cosmetics, inorganic rubber accelerator, oxychloride and oxysulfate cements, paper manufacture, fertilizers, removal of sulfur dioxide from stack gases, adsorption and catalysis, semiconductors, pharmaceuticals, food and feed additive.
See "Maglite" *[Hall]*.

magnesium oxychloride cement. (Sorel cement). A mixture of magnesium chloride and magnesium oxide that reacts with water to form a solid mass, presumed to be magnesium oxychloride. Fillers such as wood flour, sawdust, sand, powdered stone, talc, etc., are usually present. A variety of proprietary mixtures are available. Strength ranges from 7000 to 10,000 psi. Copper powder minimizes water solubility.

magnesium palmitate. $Mg(C_{16}H_{31}O_2)_2$.
Properties: Crystalline needles or white lumps. Mp 121.5C; insoluble in water and alcohol. Combustible.
Use: Varnish drier, lubricant for plastics.

magnesium perborate. $Mg(BO_3)_2 \bullet 7H_2O$.
Properties: White powder. Sparingly soluble in water; decomposes with evolution of oxygen.
Derivation: Action of peroxide or electrolytic oxidation of borate solutions.
Hazard: Moderate fire risk in contact with organic materials.
Use: Driers, bleaching, antiseptic (tooth powders).

magnesium perchlorate.
CAS: 10034-81-8. (1) $Mg(ClO_4)_2$; (2) $Mg(ClO_4)_2 \bullet 6H_2O$.
Properties: White crystals. Deliquescent; very soluble in water and alcohol. (1) D 2.21 (18C), decomposes at 251C (2) d 1.98, decomposes at 185–190C.
Derivation: Reaction of magnesium hydroxide and perchloric acid.
Hazard: Dangerous fire and explosion risk in contact with organic materials.
Use: (1) As a regenerable drying agent for gases and (2) oxidizing agent.

magnesium permanganate.
$Mg(MnO_4)_2 \bullet 6H_2O$.
Properties: Bluish-black, friable, deliquescent crystals. D 2.18, mp (decomposes). Soluble in water.
Hazard: Fire hazard in contact with organic materials. Powerful oxidizer.
Use: Polymerization catalyst, antiseptic.

magnesium peroxide. (magnesium dioxide).
CAS: 14452-57-4. MgO_2.
Properties: White, powder; tasteless; odorless. Decomposes above 100C. Insoluble in water; soluble in dilute acids with formation of hydrogen peroxide. Available oxygen 28.4%. Keep cool and dry. A powerful oxidizing material.
Derivation: From sodium or barium peroxide with magnesium sulfate in a concentrated solution.
Grade: Technical, 15, 25, and 50%.
Hazard: Powerful oxidizer and dangerous fire risk, reacts with acidic materials and moisture.
Use: Bleaching and oxidizing agent, medicine (antacid).

magnesium phosphate. (magnesium orthophosphate).
See magnesium phosphate, dibasic; magnesium phosphate, monobasic; magnesium phosphate, tribasic.

magnesium phosphate, dibasic. (dimagnesium orthophosphate; dimagnesium phosphate; magnesium phosphate, secondary; magnesium hydrogen phosphate).
CAS: 7782-75-4. $MgHPO_4 \bullet 3H_2O$.
Properties: White, crystalline powder. D 2.13, loses water at 205C, decomposes at 550–650C, decomposes to pyrophosphate on heating. Soluble in dilute acids; slightly soluble in water. Nonflammable.
Derivation: Action of orthophosphoric acid on magnesium oxide.
Grade: Technical, FCC.
Use: Stabilizer for plastics, food additive, medicine (laxative).

magnesium phosphate, monobasic. (magnesium biphosphate; acid magnesium phosphate; magnesium tetrahydrogen phosphate).
$MgH_4(PO_4)_2 \bullet 2H_2O$.
Properties: White, hygroscopic, crystalline powder. Decomposes to metaphosphate on heating. Soluble in water and acids; insoluble in alcohol. Nonflammable.
Derivation: Action of orthophosphoric acid on magnesium hydroxide.
Use: Fireproofing wood, stabilizer for plastics.

magnesium phosphate, neutral. See magnesium phosphate, tribasic.

magnesium phosphate, secondary. See magnesium phosphate, dibasic.

magnesium phosphate, tribasic. (Magnesium phosphate, neutral; trimagnesium phosphate). $Mg_3(PO_4)_2 \bullet 8H_2O$ or $4H_2O$.
Properties: Soft, bulky, white powder; odorless; tasteless. Loses all water at 400C. Soluble in acids; insoluble in water. Nonflammable.
Derivation: Reaction of magnesium oxide and phosphoric acid at high temperatures.
Grade: Technical, reagent, NF (5 H_2O variety), FCC (4, 5, or 8 H_2O).
Use: Dentifrice polishing agent, pharmaceutical antacid, adsorbent, stabilizer for plastics, food additive and dietary supplement.

magnesium pyrophosphate. $Mg_2P_2O_7 \bullet 3H_2O$.

Hawley's Condensed Chemical Dictionary

Fourteenth Edition

Revised by
Richard J. Lewis, Sr.

2001

JOHN WILEY & SONS, INC.

This book is printed on acid-free paper. ∞

Published simultaneously in Canada.

For ordering and customer service, call 1-800-CALL-WILEY.

Library of Congress Cataloging-in-Publication Data:

Condensed chemical dictionary.
Hawley's condensed chemical dictionary.—14th ed./ rev. by Richard J. Lewis, Sr. p. cm.
Includes index.
ISBN 0-471-38735-5 (cloth: acid-free paper)
1. Chemistry—Dictionaries. I. Title: Condensed chemical dictionary. II Hawley, Gessner Goodrich, 1905– III. Lewis, Richard J., Sr. IV. Title.

QD5 C5 2002
540".3--dc21 2001045614

Printed in the United States of America.

10 9 8 7 6 5 4 3 2

Table 8. Physical Properties of Magnesium Nitrates

Property	$Mg(NO_3)_2$	$Mg(NO_3)_2 \cdot 6H_2O$
mol wt	148.32	256.38
crystal system		monoclinic
space group		$P2_1/c$
mp, °C		89
heat of formation, ΔH_{298}, kJ/mol[a]	−790.7	−2613.3
free energy of formation, ΔG_{298}, kJ/mol[a]	−589.5	2080.7

[a]To convert J to cal, divide by 4.184.

Table 9. Physical Properties of Periclase

Property	Value
mol wt	40.304
crystal form	fcc
lattice constant, nm	0.42
density,[a] g/cm^3	3.581
index of refraction	1.732
hardness, Mohs'	5.5–6.0
melting point, °C	2827 ± 30
thermal conductivity at 100°C, J/(s · cm · °C)[b]	0.360
electrical resistivity, Ω · cm	
at 27°C	1.3×10^{15}
727°C	2×10^7
1727°C	4×10^2
specific heat, kJ/(kg · K)[b]	
at 27°C	0.92885
227°C	1.1255
727°C	1.2719
1727°C	1.3389
2727°C	1.3598
heat of fusion at 2642°C kJ/mol[b]	77.4
heat of formation, ΔH_{298}, kJ/mol[b]	−601.7
free energy of formation, ΔG_{298}, kJ/mol[b]	−569.44
aqueous solubility, g/100 mL	
at 20°C	0.00062
30°C	0.0086

[a]Determined by X-ray.
[b]To convert J to cal, divide by 4.184.

MAGNESIUM NITRATE

Anhydrous magnesium nitrate, $Mg(NO_3)_2$, is very difficult to isolate. The commercial product is the deliquescent hexahydrate, $Mg(NO_3)_2 \cdot 6H_2O$. Properties are given in Table 8. Magnesium nitrate is prepared by dissolving magnesium oxide, hydroxide, or carbonate in nitric acid, followed by evaporation and crystallization at room temperature. Most magnesium nitrate is manufactured and used on site in other processes.

Handling and Safety

Magnesium nitrate should be stored in a cool, dry place, because it is hygroscopic. Magnesium nitrate is an acute skin, eye, and respiratory irritant that can be absorbed into the body via inhalation and ingestion. Ingestion of magnesium nitrate may lead to the formation of methemoglobin. The personal protection to be used when handling magnesium nitrate includes chemical safety goggles, chemical resistant gloves, and a NIOSH/MSHA approved respirator. Magnesium nitrate is a strong oxidizer and is incompatible with strong reducing agents and strong acids.

Uses

A soluble form of magnesium nitrate is used as a fertilizer in states such as Florida, where drainage through the porous, sandy soil depletes the magnesium. Magnesium nitrate is also used as a prilling aid in the manufacture of ammonium nitrate. Another use for magnesium nitrate is as an alternative to sulfuric acid in the purification of nitric acid.

MAGNESIUM OXIDE

The principal commercial forms of magnesia are dead-burned magnesia (periclase), caustic-calcined (light-burned magnesia), hard-burned magnesia, and calcined dolomite. These materials are usually formed by the thermal decomposition or chemical reaction of various magnesium compounds, including magnesite ore, magnesium hydroxide, magnesium chloride, and synthetic magnesium carbonate. Physical properties of periclase are given in Table 9.

Properties

The properties of magnesia produced by thermal decomposition are determined by the calcination time, temperature, the nature of the magnesium-containing precursor, and other chemical compounds in the process. Increasing calcination time and temperature increases the crystallite size of the magnesia, simultaneously decreasing the surface area and reactivity of the product. There are many processes for producing magnesium oxide.

Health and Safety Factors

Magnesium oxide is compatible with most chemicals; exceptions are strong acids, bromine pentafluoride, chlorine trifluoride, interhalogens, strong oxidizers, and phosphorous pentachloride.

Uses

The iron and steel industry is the largest consumer of magnesium in compounds in the United States and most other magnesia-consuming countries. Dead-burned magnesia from magnesite, seawater, or well and lake brines is used as a principal constituent in metallurgical furnace refractory products.

Caustic-calcined magnesia has uses in water treatment, as a neutralizing agent for some wastewater streams, and for removal of SO_2 from industrial flue gases. Magnesia is also used in agricultural applications, for animal feed and fertilizer, in a compound necessary for plant photosynthesis pasture fertilization for animal nutrition, cements, used primarily as flooring in

industrial and institutional buildings. Magnesia also is used as a stabilizer or vulcanizing agent in rubber. Fused and boron-free magnesia or periclase are used for insulation of heating elements in electric furnaces and appliances.

In the manufacturing industry, caustic-calcined magnesia is used in the production of rayon, fuel additives, and rubber. Caustic-calcined magnesia is used to produce magnesium acetate, for neutralization in producing rayon fiber. Caustic-calcined magnesia is a starting material for the production of magnesium overbased sulfonates, which are used as acid acceptors and sludge dispersants in crankcase lubricating oils and as a fuel additive. Magnesium oxide also may be injected into oil-fired utility boilers, where it reacts with vanadium salts to alleviate slagging and corrosion problems. In water-base oil-well drilling muds, magnesia is used as a buffer, for viscosity control, and as a corrosion inhibitor. Most of the end markets for caustic-calcined magnesia are mature, except the environmental market, where applications in water treatment are growing.

MAGNESIUM PEROXIDE

Industrial production of magnesium peroxide, MgO_2, involves the reaction of magnesium oxide and hydrogen peroxide. A product containing not more than 50% MgO_2 is obtained.

Uses

Magnesium peroxide is used mainly in medicine for treating hyperacidity in the gastric intestinal tract, and in the treatment of metabolic diseases such as diabetes and ketonuria. It is also used in the preparation of toothpaste and antiseptic ointments.

MAGNESIUM PHOSPHATE

An aqueous solution of monoammonium phosphate reacts with MgO to form ammonium magnesium phosphate hexahydrate, $NH_4MgPO_4 \cdot 6H_2O$. Properties are given in Table 10. Magnesium phosphate compounds are used as cementing agents for the refractory material used in high temperature dental investment castings.

Table 11. Minerals Containing Magnesium Sulfate

Mineral name	Formula
kieserite	$MgSO_4 \cdot H_2O$
starkeyite	$MgSO_4 \cdot 4H_2O$
pentahydrite	$MgSO_4 \cdot 5H_2O$
hexahydrite	$MgSO_4 \cdot 6H_2O$
epsomite	$MgSO_4 \cdot 7H_2O$
vanthoffite	$3Na_2SO_4 \cdot MgSO_4$
bloedite	$Na_2SO_4 \cdot MgSO_4 \cdot 4H_2O$
langbeinite	$K_2SO_4 \cdot 2MgSO_4$
leonite	$K_2SO_4 \cdot MgSO_4 \cdot 4H_2O$
schoenite	$K_2SO_4 \cdot MgSO_4 \cdot 6H_2O$
kainite	$4KCl \cdot 4MgSO_4 \cdot 11H_2O$
polyhalite	$K_2SO_4 \cdot MgSO_4 \cdot 2CaSO_4 \cdot 2H_2O$

MAGNESIUM SULFATE

Magnesium sulfate, $MgSO_4$, is found widely in nature as either a double salt or as a hydrate. The more important mineral forms are listed in Table 11. The physical properties of anhydrous magnesium sulfate, kieserite, and epsomite, as well as of four less prominent hydrates, are listed in Table 12.

Manufacture and Processing

Anhydrous $MgSO_4$ can be prepared only by dehydration of a hydrate. Aqueous solutions of $MgSO_4$ can be prepared by dissolving MgO, $Mg(OH)_2$, or $MgCO_3$ in sulfuric acid or for absorbing SO_2 using a $Mg(OH)_2$ slurry to form the soluble bisulfite, $Mg(HSO_3)_2$, followed by air oxidation to SO_4^{-2}. Technical-grade epsom salt is prepared by dissolving MgO, $Mg(OH)_2$, or $MgCO_3$ in sulfuric acid. To prepare a USP-grade epsom salt, higher purity MgO or $Mg(OH)_2$ is used.

Table 10. Physical Properties of Magnesium Phosphates

Property	Farringtonite	Dittmarite	Struvite
molecular formula	$Mg_3(PO_4)_2$	$NH_4MgPO_4 \cdot H_2O$	$NH_4MgPO_4 \cdot 6H_2O$
mol wt	262.85	155.33	245.40
crystal system	monoclinic	orthorhombic	orthorhombic
space group	$P2_1/n$	$Pmn2_1$	$Pm2_1n$
lattice constants, nm			
a	7.60	5.606	6.945
b	8.23	8.758	11.208
c	5.08	4.788	6.1355
Z[a]	2	2	2
density, calculated, g/cm^3	2.76	2.19	1.706
hardness, Mohs'		2	2
color	white to yellow	colorless	colorless to white
melting point, °C	1184		decrepitates
index of refraction	1.540, 1.544, 1.559	1.549, 1.569, 1.571	1.495, 1.496, 1.504

[a]Number of formulas per unit cell.

KIRK-OTHMER

CONCISE ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY

Fifth Edition

VOLUME 2

BICENTENNIAL 1807 WILEY 2007 BICENTENNIAL

WILEY-INTERSCIENCE
A JOHN WILEY & SONS, INC., PUBLICATION

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.
Published simultaneously in Canada.

Wiley Bicentennial Logo: Richard J. Pacifico

Library of Congress Cataloging-in-Publication Data:

Kirk-Othmer concise encyclopedia of chemical technology: 2 volume set. – 5th ed.
p. cm.
Includes index.
ISBN 978-0-470-04748-4 (cloth)
1. Chemistry, Technical–Encyclopedias.
TP9.K54 2007
660.03–dc22 2007008057

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

MAGNESIA. A fine, white powder of **magnesium oxide,** MgO, obtained by calcining magnesite or dolomite and refining chemically. It is used in pharmaceuticals, in cosmetics, in rubbers as a scorch-resistant filler, in soaps, and in ceramics. It requires 6.5 tons (5.9 metric tons) of dolomite to yield 1 ton (0.9 metric tons) of pure magnesia powder. Particle size of the powder is 19.7 μin (0.5 μm). For chemical uses it is 99.7% minimum purity with no more than 0.06% iron oxide and 0.08 calcium oxide, and the magnesia for electronic parts has a maximum of 0.03% iron oxide and 0.0025 boron. This powder is converted from magnesium hydroxide. **Maglite,** of Whittaker, Clark & Daniels, Inc., used for rubbers, is produced from seawater. **Magox magnesia,** of Basic Chemicals, is 98% pure MgO extracted from seawater. It comes in particle sizes to 325 mesh in high- and low-activity grades for rubber, textile, and chemical uses. A very pure magnesia is also produced by reducing magnesium nitrate.

Magnesia ceramic parts, such as crucibles and refractory parts, are generally made from magnesia that is usually electrically fused and crushed from the large cubic crystals. The crystals have ductility and can be bent. The particle size and shape are easily controlled in the crushing to fit the needs of the molded article. Pressed and sintered parts have a melting point of about 5070°F (2765°C) and can be employed to 4172°F (2300°C) in oxidizing atmospheres or to 3092°F (1700°C) in reducing atmospheres. The material is inert to molten steels and to basic slags. **Magnafrax 0340,** of Carborundum Co., is magnesia in the form of plates, tubes, bars, and disks. The material has a specific gravity of 3.3 and a thermal conductivity twice that of alumina. Its vitreous structure gives it about the same characteristics as a single crystal for electronic purposes. **Magnorite,** of Norton Co., is fused magnesia in granular crystals with a melting point of 5072°F (2800°C), used for making ceramic parts and for sheathing electric heating elements. **K-Grain magnesia,** of Kaiser Aluminum and Chemical Corp., is 98% magnesia, containing no more than 0.4 silica. The magnesia ceramic, of Corning Inc., is 99.8% pure. The cast, pressed, or extruded parts when high-fired have a fine-grained, dense structure with practically no shrinkage and a flexural strength of 15,500 lb/in^2 (107 MPa).

MAGNESITE. A white to bluish-gray mineral used in the manufacture of bricks for basic refractory furnace linings and as an ore of magnesium. The ground, burned magnesite is a light powder, shaped into bricks at high pressure and baked in kilns. Magnesite is a magnesium carbonate, $MgCo_3$, with some iron carbonate and ferric oxide. Magnesite releases carbon dioxide on heating and forms magnesia, MgO. When heated further, it forms a crystalline structure known as

periclase, which has a melting point of 5070°F (3076°C) and specific gravity of 3.58. The mineral periclase occurs in nature but is rare. A crystalline form is called **breunnerite.** The fused magnesia made in the arc furnace is actually synthetic periclase. The synthetic material is in transparent crystals up to 2 in (5 cm), which are crushed to powder for thermal insulation and for making refractory parts. Magnesite in compact, earthy form or granular masses has a vitreous luster, and the color may be white, gray, yellow, or brown. Mohs hardness is 3.5 to 4.5, and the specific gravity is about 3.1. The U.S. production of crude magnesite is in Nevada, Washington, and California.

The product known as **dead-burned magnesite** is in the form of dense particles used for refractories. It is produced by calcining magnesite at 2642 to 2732°F (1450 to 1500°C). **Caustic magnesite** is a product resulting from calcination at 1292 to 2192°F (700 to 1200°C), which leaves from 2 to 7% carbon dioxide in the material and gives sufficient cementing properties for use as a refractory cement. Beluchistan magnesite has 95 to 98% $MgCO_3$, with 0.5 to 1 iron oxide. Manchurian dead-burned magnesite has 90.9% magnesia with 4 silica, and some iron oxide and alumina.

Magnesite for use in producing magnesium metal should have at least 40% MgO, with not over 4.5 CaO and 2 FeO. **Brucite,** a natural hydrated magnesium oxide found in Ontario, contains a higher percentage of magnesia than ordinary magnesite and is used for furnace linings. Austrian magnesite has from 4 to 9% iron oxide, which gives it the property of fritting together more readily. Magnesite is a valued refractory material for crucibles, furnace brick and linings, and high-temperature electrical insulation because of its basic character, chemical resistance, high softening point, and high electrical resistance. Its chief disadvantage is its low resistance to heat shock. Magnesite brick and refractory products are marketed under a variety of trade names, such as **Ritex,** of General Refractories Co., and **Ramix.** It is also used as a covering for hot piping. The German artificial stone called **Kunststein** is magnesite.

MAGNESIUM. A silvery-white metal, symbol Mg, which is the lightest metal that is stable under ordinary conditions and produced in quantity. One of its chief uses is as an alloying element in aluminum, zinc, lead, and other nonferrous alloys. It is also used for cathodic protection of other metals from corrosion. It is the sixth most abundant element, and it was originally called **magnium** by Sir Humphry Davy. Specific gravity is 1.74, melting point 1202°F (650°C), boiling point about 2030°F (1110°C), and electrical conductivity about 40% that of copper. Ultimate tensile strengths are about 13,000 lb/in^2 (90 MPa) as cast, at least 23,000 lb/in^2 (159 MPa) for

Materials Handbook

An Encyclopedia for Managers, Technical Professionals, Purchasing and Production Managers, Technicians, and Supervisors

George S. Brady
(Deceased)

Henry R. Clauser
Materials Consultant
Former Editor, Materials Engineering

John A. Vaccari
Materials Consultant
Former Editor, Materials Engineering

Fourteenth Edition

McGraw-Hill

New York St. Louis San Francisco Auckland Bogotá
Caracas Hamburg Lisbon London Madrid Mexico Milan
Montreal New Delhi Paris San Juan São Paulo Singapore
Sydney Tokyo Toronto

McGraw-Hill

A Division of The McGraw-Hill Companies

3 4 5 6 7 8 9 0 DOC/DOC 9 0 1 0 9 8

ISBN 0-07-007084-9

The sponsoring editor for this book was Harold B. Crawford, the editing supervisor was Caroline Levine, and the production supervisor was Donald F. Schmidt. It was set in New Century Schoolbook by Terry Leaden of McGraw-Hill's Professional Book Group composition unit.

Printed and bound by R. R. Donnelley & Sons Company.

macrorheology [MECH] A branch of rheology in which materials are treated as homogeneous or quasi-homogeneous, and processes are treated as isothermal. { ¦mak·rō·rē'äl·ə·jē }

macroscopic property *See* thermodynamic property. { ¦mak·rə¦skäp·ik 'präp·ərd·ē }

macroscopic stress [MET] Residual stress in a metal in a distance comparable to the gage length of strain measurement specimens and therefore detectable by x-ray or dissection techniques. Also known as macrostress. { ¦mak·rə¦skäp·ik 'stres }

macrostress *See* macroscopic stress. { 'mak·rō ,stres }

macrostructure [MET] Structure of an etched metal visible to the naked eye or at magnifications up to 10 diameters. { ¦mak·rō'strək·chər }

MAD *See* multiwavelength anomalous dispersion. { ¦em¦ā'dē *or* mad }

madder [MATER] The root of the madder plant (*Rubia tinctorium*), pulverized and used as source of glucosides to produce alizarin by fermentation. Also known as gamene. { 'mad·ər }

madder lake [MATER] Bluish-red, transparent pigment produced from alizarin red; used to make stains and inks, and as a component of artists' oil colors. { 'mad·ər 'lāk }

Madelung constant [SOLID STATE] A dimensionless constant which determines the electrostatic energy of a three-dimensional periodic crystal lattice consisting of a large number of positive and negative point charges when the number and magnitude of the charges and the nearest-neighbor distance between them is specified. { 'mä·də,lůŋ ,kän·stənt }

magic acid [INORG CHEM] A superacid consisting of equal molar quantities of fluorosulfonic acid (HSO_3F) and antimony pentafluoride (SbF_5). { 'maj·ik ¦as·əd }

magnesia [INORG CHEM] Magnesium oxide that is processed for a particular purpose. { mag'nē·zhə }

magnesia brick [MATER] A type of refractory brick composed of magnesium oxide with about 15% of other oxides. Also known as magnesite brick. { mag'nē·zhə ¦brik }

magnesia cement *See* magnesium oxychloride cement. { mag'nē·zhə si'ment }

magnesia refractory [MATER] Heat- and corrosion-resistant material made of magnesium oxide; used in cement or brick form to line high-temperature process vessels or furnaces. { mag'nē·zhə ri¦frak·trē }

magnesite brick *See* magnesia brick. { 'mag·nə ,sīt ¦brik }

magnesium [CHEM] A metallic element, symbol Mg, atomic number 12, atomic weight 24.305. [MET] A silvery-white, lightweight, malleable, ductile metal, used in metallurgical and chemical processes, photography, pyrotechny, and light alloys. { mag'nē·zē·əm }

magnesium arsenate [INORG CHEM] $Mg_3(AsO_4)_2 \cdot xH_2O$ A white, poisonous, water-insoluble powder used as an insecticide. { mag'nē·zē·əm 'ärs·ən,āt }

magnesium borate [INORG CHEM] $3MgO \cdot B_2O_3$ Crystals that are white or colorless and transparent; soluble in alcohol and acids, slightly soluble in water; used as a fungicide, antiseptic, and preservative. { mag'nē·zē·əm 'bōr,āt }

magnesium boride *See* magnesium diboride. { mag'nē·zē·əm 'bōr,īd }

magnesium bromate [INORG CHEM] $Mg(BrO_3)_2 \cdot 6H_2O$ A white crystalline compound, insoluble in alcohol, soluble in water; a fire hazard; used as an analytical reagent. { mag'nē·zē·əm 'brō ,māt }

magnesium bromide [INORG CHEM] $MgBr_2 \cdot 6H_2O$ Deliquescent, colorless, bitter-tasting crystals, melting at 172°C, soluble in water, slightly soluble in alcohol; used in medicine and in the synthesis of organic chemicals. { mag'nē·zē·əm 'brō,mīd }

magnesium carbonate [INORG CHEM] $MgCO_3$ A water-insoluble, white powder, decomposing at about 350°C; used as a refractory material. { mag'nē·zē·əm 'kär·bə,nāt }

magnesium chlorate [INORG CHEM] $Mg(ClO_3)_2 \cdot 6H_2O$ A white powder, bitter-tasting and hygroscopic, slightly soluble in alcohols, soluble in water; used in medicine. { mag'nē·zē·əm 'klōr ,āt }

magnesium chloride [INORG CHEM] $MgCl_2 \cdot 6H_2O$ Deliquescent white crystals; soluble in water and alcohol; used in disinfectants and fire extinguishers, and in ceramics, textiles, and paper manufacture. { mag'nē·zē·əm 'klór,īd }

magnesium diboride [INORG CHEM] MgB_2 A crystalline intermetallic compound, produced as a black powder, that becomes superconducting at the unusually high temperature of 39 K (−389°F, −234°C); melts at 800°C. Also known as magnesium boride. { mag'nē·zē·əm dī'bór ,īd }

magnesium dust [MET] Magnesium metal powder; flammable; used in photographic flash lights and pyrotechnics. { mag'nē·zē·əm 'dəst }

magnesium fluoride [INORG CHEM] MgF_2 White, fluorescent crystals; insoluble in water and alcohol, soluble in nitric acid; melts at 1263°C; used in ceramics and glass. Also known as magnesium flux. { mag'nē·zē·əm 'flůr,īd }

magnesium fluosilicate [INORG CHEM] $MgSiF_6 \cdot 6H_2O$ Water-soluble, efflorescent white crystals, used in ceramics, in mothproofing and waterproofing, and as a concrete hardener. Also known as magnesium silicofluoride. { mag'nē·zē·əm 'flü·ə'sil·ə,kāt }

magnesium flux *See* magnesium fluoride. { mag'nē·zē·əm 'fləks }

magnesium halide [INORG CHEM] A compound formed from the metal magnesium and any of the halide elements; an example is magnesium bromide. { mag'nē·zē·əm 'ha,līd }

magnesium hydrate *See* magnesium hydroxide. { mag'nē·zē·əm 'hī,drāt }

magnesium hydride [INORG CHEM] MgH_2 A hydride compound formed from the metal magnesium; it decomposes violently in water, and in a vacuum at about 280°C. { mag'nē·zē·əm 'hī,drīd }

McGraw-Hill

Dictionary of Materials Science

McGraw-Hill

New York Chicago San Francisco Lisbon London Madrid
Mexico City Milan New Delhi San Juan Seoul Singapore
Sydney Toronto

The McGraw·Hill Companies

1 2 3 4 5 6 7 8 9 0 DOC/DOC 0 9 8 7 6 5 4 3

ISBN 0-07-142176-9

This book is printed on recycled, acid-free paper containing a minimum of 50% recycled, de-inked fiber.

This book was set in Helvetica Bold and Novarese Book by TechBooks, Fairfax, Virginia. It was printed and bound by RR Donnelley, The Lakeside Press.

Library of Congress Cataloging-in-Publication Data

McGraw-Hill dictionary of materials science.
p. cm.
ISBN 0-07-142176-9
1. Materials science—Dictionaries.

TA402.D57 2003
620.1'1'03—dc21 2003051203

On the cover: Simulation of methane dissociation on nickel surface. (Accelrys http://www.accelrys.com)

illustrated by the interaction between optically active dibinaphtho-22-crown-6 and optically active phenethylammonium chloride. The crown ether oxygen atoms converge to the center of a hole and the ammonium hydrogens diverge from nitrogen. Three complementary O—H—N hydrogen bonds stabilize the complex. In this particular case, different steric interactions between the optically active crown and the enantiomers of the complex permit resolution of the salt.

Other organic cations have also been complexed, either by insertion of the charged function in the crown's polar hole or by less distinct interactions observed in the solid state. *See* COORDINATION CHEMISTRY; COORDINATION COMPLEXES.

Applications. The striking ability of neutral macrocyclic polyethers to complex with alkali and alkaline-earth cations as well as a variety of other species has proved of considerable interest to the chemistry community. Crown ethers may complex the cation associated with an organic salt and cause separation of the ions. In the absence of cations to neutralize them, many anions show considerably enhanced reactivity. *See* ORGANIC REACTION MECHANISM.

One of the important modern developments in synthetic chemistry was the use of the phase-transfer technique. Nucleophiles such as cyanide are often insoluble in media that dissolve organic compounds with which they react. Thus 1-bromooctane may be heated in the presence of sodium cyanide for days with no product formation. When a crown ether is added, two things change. First, solubility is enhanced because the crown wraps about the cation, making it more lipophilic. This, in turn, makes the entire salt more lipophilic. Second, by solvating the cation, the association between cation and anion and the interactions with solvent are weakened, thus activating the anion for reaction. This approach has been used to assist the dissolution of potassium permanganate ($KMnO_4$) in benzene in which solvent permanganate is a powerful oxidizing agent. One striking example of solubilization is the displacement of chloride (Cl^-) by fluoride (F^-) in dimethyl 2-chloroethylene-1,1-dicarboxylate by using the KF complex of dicyclohexano-18-crown-6. In this reaction, a crown provides solubility for an otherwise insoluble or marginally soluble salt. Use of crowns to transfer a salt from the solid phase into an organic phase is often referred to as solid-liquid phase-transfer catalysis. *See* CATALYSIS; PHASE-TRANSFER CATALYSIS.

Since crown ethers and related species complex cations selectively, they can be used as sensors. Crowns have been incorporated into electrodes for this purpose, and crowns having various appended chromophores have been prepared. When a cation is bound within the macroring, a change in electron density is felt in the chromophore. The chromophores are often nitroaromatic residues and therefore highly colored. The color change that accompanies complexation can be easily detected and quantitated. *See* ION-SELECTIVE MEMBRANES AND ELECTRODES. [G.W.G.]

Magnesium A metallic chemical element, Mg, in group 2 of the periodic system, atomic number 12, atomic weight 24.312. Magnesium is silvery white and extremely light in weight. The specific gravity is 1.74, and the density is 1740 kg/m^3 (0.063 lb/in.^{3} or 108.6 lb/ft^3). Because of this lightness combined with alloy strength suitable for many structural uses, magnesium has long been known as industry's lightest structural metal. *See* PERIODIC TABLE.

With a density only two-thirds that of aluminum, magnesium is used in countless applications where weight saving is an important consideration. The metal also has, however, many desirable chemical and metallurgical properties which account for its extensive use in a variety of nonstructural applications.

Magnesium is very abundant in nature, occurring in substantial amounts in many rock-forming minerals such as dolomite, magnesite, olivine, and serpentine. In addition,

Table 1. Physical properties of primary magnesium (99.9% pure)

Property	Value
Atomic number	12
Atomic weight	24.312
Atomic volume, cm^3/g-atom	14.0
Crystal structure	Close-packed hexagonal
Electron arrangement in free atoms	(2) (8) 2
Mass numbers of the isotopes	24, 25, 26
Percent relative abundances of ^{24}Mg, ^{25}Mg, ^{26}Mg	77, 11.5, 11.5
Density, g/cm^3 at 20°C	1.738
Specific heat, cal/g/°C at 20°C (1 cal = 4.2 joules)	0.245
Melting point, °C	650
Boiling point, °C	1110±10

magnesium is also found in sea water, subterranean brines, and salt beds. It is the third most abundant structural metal in the Earth's crust, exceeded only by aluminum and iron.

Some of the properties of magnesium in metallic form are listed in Table 1. Magnesium is very active chemically. It will actually displace hydrogen from boiling water, and a large number of metals can be prepared by thermal reduction of their salts and oxides with magnesium. The metal will combine with most nonmetals and with practically all acids. Magnesium reacts only slightly or not at all with most alkalies and many organic chemicals, including hydrocarbons, aldehydes, alcohols, phenols, amines, esters, and most oils. As a catalyst, magnesium is useful for promoting organic condensation, reduction, addition, and dehalogenation reactions. It has long been used for the synthesis of complex and special organic compounds by the well-known Grignard reaction. Principal alloying ingredients include aluminum, manganese, zirconium, zinc, rare-earth metals, and thorium.

Table 2. Principal magnesium compounds and uses

Compound	Uses
Magnesium carbonate	Refractories, production of other magnesium compounds, water treatment, fertilizers
Magnesium chloride	Cell feed for production of metallic magnesium, oxychloride cements, refrigerating brines, catalyst in organic chemistry, production of other magnesium compounds, flocculating agent, treatment of foliage to prevent fire and resist fire, magnesium melting and welding fluxes
Magnesium hydroxide	Chemical intermediate, alkali, medicinal
Magnesium oxide	Insulation, refractories, oxychloride and oxysulfate cements, fertilizers, rayon-textile processing, water treatment, papermaking, household cleaners, alkali, pharmaceuticals, rubber filler catalyst
Magnesium sulfate	Leather tanning, paper sizing, oxychloride and oxysulfate cements, rayon delustrant, textile dyeing and printing, medicinal, fertilizer ingredient, livestock-food additive, ceramics, explosives, match manufacture

Magnesium compounds are used extensively in industry and agriculture. Table 2 lists the major magnesium compounds and indicates some of their more significant applications. [W.H.Gr.; S.C.E.]

Magnetochemistry The branch of chemistry which studies the interrelationship between a magnetic held and atomic and molecular structures.

A substance in a magnetic field acquires an intensity of magnetization which may be either smaller or larger than that induced in a vacuum by the same field. In the first case, the substance is said to be diamagnetic. In the second case, the substance may be paramagnetic, ferromagnetic, or antiferromagnetic.

Diamagnetism, a universal property of matter, is usually of the order of magnitude 10^{-6} to 10^{-5}. Temperature-dependent paramagnetism, on the other hand, arises only when an atom, ion, or molecule possesses a permanent magnetic moment either in the ground state or in an excited state. A permanent magnetic moment is the result of the presence of one or more unpaired electrons. Paramagnetic susceptibilities are of the order of magnitude 10^{-4} to 10^{-3}.

A substance composed of atoms with permanent magnetic moments which are very near to one another (for example, iron metal) may display ferromagnetism. This phenomenon occurs when large numbers of the atoms with permanent magnetic moments interact so that their individual moments align in a parallel fashion, giving rise to a large resultant moment.

On the other hand, a similar substance (for example, manganese metal) may display antiferromagnetism. Here, the magnetic moments align in an antiparallel fashion, thus largely canceling the individual magnetic moments of the atoms. Parallel versus antiparallel alignment depends, among other factors, upon interatomic distances. *See* ATOMIC STRUCTURE AND SPECTRA; ELECTRON PARAMAGNETIC RESONANCE (EPR) SPECTROSCOPY; MOLECULAR STRUCTURE AND SPECTRA. [D.M.Gr.]

Maillard reaction A nonenzymatic chemical reaction involving condensation of an amino group and a reducing group, resulting in the formation of intermediates which ultimately polymerize to form brown pigments (melanoidins). The reaction was named for the French biochemist Louis-Camille Maillard. It is of extreme importance to food chemistry, especially because of its ramifications in terms of food quality. *See* AMINE; REACTIVE INTERMEDIATES.

There are three major stages of the reaction. The first comprises glycosylamine formation and rearrangement *N*-substituted-1-amino-l-deoxy-2-ketose (Amadori compound). The second phase involves loss of the amine to form carbonyl intermediates, which upon dehydration or fission form highly reactive carbonyl compounds through several pathways. The third phase occurring upon subsequent heating involves the interaction of the carbonyl flavor compounds with other constituents to form brown nitrogen-containing pigments (melanoidins). These are highly desirous compounds in certain foods browned by heating in the presence of oxygen.

The Maillard reaction is considered undesirable in some biological and food systems. The interaction of carbonyl and amine compounds might damage the nutritional quality of proteins by reducing the availability of lysine and other essential amino acids and by forming inhibitory or antinutritional compounds. The reaction is also associated with undesirable flavors and colors in some foods, particularly dehydrated foods. *See* AMINO ACIDS; CARBONYL. [M.E.B.]

Manganese A metallic element, Mn, atomic number 25, and atomic weight 54.9380 g/mole. Manganese is one of the transition elements of the first long period

McGRAW-HILL CONCISE ENCYCLOPEDIA OF CHEMISTRY

McGraw-Hill

New York Chicago San Francisco Lisbon London Madrid Mexico City
Milan New Delhi San Juan Seoul Singapore Sydney Toronto

The McGraw·Hill Companies

Library of Congress Cataloging in Publication Data

McGraw-Hill concise encyclopedia of chemistry.
p. cm.
Includes index
ISBN 0-07-143953-6
1. Chemistry—Encyclopedias. I. Title: Concise encyclopedia of chemistry.

QD4.M34 2004
540.3—dc22 2004049906

3 4 5 6 7 8 9 0 IBT/IBT 0 9 8

This book was printed on acid-free paper.

It was set in Helvetica Black and Souvenir by TechBooks, Fairfax, Virginia.

The book was printed and bound by IBT Global.

resorption borders. **diferenciação—**, (*Petrog.*) magmatic segregation.
Magna-carta (*f.*) Magna Charta.
magnanimidade (*f.*) magnanimity, generosity.
magnânimo -ma (*adj.*) magnanimous, noble; generous.
magnata, -te (*m.*) magnate; tycoon; distinguished person; also = MANDACHUVA.
magneferrite (*f., Min.*) magnesioferrite.
magnésia (*f., Chem.*) magnesia (magnesium oxide).—**branca**, (*Pharm.*) magnesia alba.—**usta**, (*Chem.*) magnesia usta; calcined magnesia.
magnesiano -na, magnésico -ca (*adj.*) magnesian.
magnésio (*m., Chem.*) magnesium.
magnesioferrite (*f.*) = MAGNEFERRITE.
magnesita (*f., Min.*) magnesite.
magnete (*m.*) magnetite, loadstone; an iron or steel magnet.
magnetelétrico -ca (*adj.*) magnetoelectric(al).
magnético -ca (*adj.*) magnetic; attractive.
magnetismo (*m.*) magnetism; attractiveness.
magnetita (*f.*) magnetite, loadstone.
magnetização (*f.*) magnetization.
magnetizador -dora (*adj.*) magnetizing; (*m.*) magnetizer.
magnetizar (*v.t.*) to magnetize; fig., to influence, control; to attract, captivate.
magnetizável (*adj.*) magnetizable.
magneto (*m., Elec.*) magneto.
magnetofônio (*m., Physics*) magnetophone.
magnetogerador (*m.*) magnetogenerator.
magnetógrafo (*m., Physics*) magnetograph.
magnetograma (*m., Physics*) magnetogram.
magnetóide (*adj.*) magnetoid.
magnetologia (*f.*) the study of magnetism.
magnetometria (*f., Physics*) magnetometry.
magnetômetro (*m., Physics*) magnetometer.
magnéton (*m., Physics*) magneton.
magneto-óptica (*f.*) magnetooptics.
magnetopirite (*f., Min.*) magnetic pyrrites, pyrrhotite.
magnetoplumbite (*f., Min.*) magnetoplumbite.
magnetoquímica (*f.*) magnetochemistry.
magnetoscópio (*m., Physics*) magnetoscope.
magnetostrição (*f., Physics*) magnetostriction.
magnetron (*m.*) magnetron.
magnicaudado -da (*adj.; Zool.*) magnicaudate.
magnificação (*f.*) magnification; laudation, exaltation.
magnificar (*v.t.*) to magnify, extol, praise.
magnificatório -ria (*adj.*) tending to magnify.
magnificência (*f.*) magnificence, splendor, pomp.
magnificente (*adj.*) magnificent, grand, imposing; magnanimous.
magnífico -ca (*adj.*) magnificent; grand, splendid, excellent; fine, beautiful.
magniloqüência (*f.*) magniloquence.
magniloqüente (*adj.*) magniloquent.
magníloquo [quo = co] (*adj.*) eloquent.
magnitude (*f.*) magnitude, greatness; importance, consequence.
magno -na (*adj.*) great, important.
magnólia (*f., Bot.*) any magnolia, esp. *M. coco* and *M. grandiflora* (the southern magnolia).—**iulã**, the ulan magnolia (*M. denudata*).—**branca** = PINHO-DO-BREJO.
magnoliáceo -cea (*adj.; Bot.*) magnoliaceous; (*f.,pl.*) the Magnoliaceae (magnolia family).
mago -ga (*adj.*) magical; charming; (*m.*) one of the Magi; one of the Three Wise Men from the East; a magician, wizard, sorcerer.
mágoa (*f.*) bruise, black-and-blue mark; fig., grief, sorrow, heartbreak; regret; envy, jealousy, spite.
magoado -da (*adj.*) hurt; aggrieved; heartsick; regretful.
magoar (*v.t.*) to bruise; to afflict, hurt, offend; to aggrieve; to wound the feelings of; (*v.r.*) to hurt oneself.
magoativo -va (*adj.*) afflictive; hurtful; vexing.
magonga (*f.*) var. of MANGONGA.
magorim (*m.*) the Arabian jasmine (*Jasminum sambac*).
magote (*m.*) a crowd of people; a heap of things.
magra (*f.*) see under MAGRO.
magrelo -la (*adj.; m.,f.*) = MAGRICELA.
magrém (*f.*) thinness [= MAGREZA].
magrete [grê] (*adj.*) somewhat thin.
magreza [ê] (*f.*) thinness, leanness.
magricela (*adj.*) thin, skinny; scrawny; lanky; (*m.,f.*) such a person.
magrinha (*f., colloq.*) small-bore gun.
magriz -za (*adj.*) skinny; (*m.,f.*) skinny person.
magrizela (*m.,f.*) = MAGRICELA.
magro -gra (*adj.*) thin, lean; meagre.—**como um caniço**, slender as a beanpole; (*f., colloq.*) tuberculosis; death.
magruço -ça (*adj.*) = MAGRICELA.
maguari [í] (*m.*) the American stork (*Euxenura moguari*), c.a. JABURU-MOLEQUE; the cocoi heron (*Ardea cocoi*), c.a. BAGUARI, SOCOÍ.
maguei (*f., Bot.*) maguey (*Agave atrovirens*) which yields pulque.
maguiçapá (*m.*) = COATÁ-BRANCO.
maiá (*m.*) Mayathan (language of the Mayas).
maiaca (*f.*) a yellow-eye grass (*Xyris pallida*), c.a. BOTÃO-DE-OURO.
maiêutica (*f.*) maieutics (Socratic method).
mainça [a-ín] (*f.*) handful [= MÃO-CHEIA].
mainel [-néis] (*m.*) handrail [= CORRIMÃO].
mainumbi (*m.*) a hummingbird [= GUAINUMBI].
maio (*m.*) the month of May; (*pl., Bot.*) the Tangiers iris (*I. tingitana*).—**s pequenos**, the Moraea iris (*I. sisyrinchium*).
maiô (*m.*) a woman's bathing suit; a pair of tights. [Fr. *maillot*].
maiólica (*f.*) majolica, faience.
maionese (*f.*) mayonnaise.
maior (*adj.; comparative of* GRANDE) larger, greater, bigger; of age, adult; (*m.,f.*) an adult.—**(do) que**, greater (bigger) than.—**de vinte-e-um anos**, over 21.—**de-todos**, (*colloq.*) the middle finger.—**divisor comum**, greatest common divisor.—**número**, majority. **a—parte**, the majority; the greater, or greatest, part; the most. **bem—**, quite a bit (a good deal) larger. **de—idade**, of age. **É o—!** (*slang*) He is the most! **força—**, superior or irresistible force; so-called act of God. [Fr. *force majeure*]. **modo—**, (*Music*) major mode. **premissa—**, (*Logic*) major premise.
maioral (*m.*) the head man; ranch foreman; big shot; also = MANDACHUVA.
maioranta (*f.*) = FANFÃ (a plant).
Maiorca (*f.*) Majorca.
maioria (*f.*) majority, greater number.
maioridade (*f.*) majority, full legal age. **atingir a—**, to come of age.
maioríssimo -ma (*adj.*) greatest of all.
maiormente (*adv.*) = MORMENTE.
maipoca (*f.*) replanting of a field of manioc.
maipuré (*m., Zool.*) the black-headed caique (*Pionites melanocephala*), c.a. PERIQUITO-DE-CABEÇA-PRETA.
mais (*adv.*) more, moreover, besides; (*m.*) the rest; (*adj.*) more.—**a tempo**, sooner.—**adiante**, further on.—**as vozes do que as nozes**, more shadow than substance; stuff and nonsense.—**cedo ou—tarde**, sooner or later, eventually.—**de (que)**, more than.—**de uma vez**, more than once.—**dia, menos dia**, some day; sooner or later.—**e mais**, more and more.—**essa!** and now this!—**hoje, mais amanhã**, any day (now).—**logo**, later.—**nada**, nothing more, anything else.—**ou menos**, more or less, about.—**por aqui, mais por ali**, more or less.—**(de) que**, more than.—**que muito**, in the highest degree.—**que-perfeito**, (*Gram.*) pluperfect.—**que tudo**, more than all else.—**tarde**, later.—**um**, one more, another.—**um pouquinho**, a little bit more.—**uma vez**, once more. **a—**, too much, in excess; besides, additional. **a—e melhor**, more and better. **ainda—**, all the more, still better. **ao—**, at most; moreover. **as—das vezes**, almost always, more often than not. **até—não poder**, to the limit, to the utmost. **cada vez—**, more all the time. **de—a mais**, more and more; besides. **É o—que posso fazer**, It is the most I can do. **quanto ao—**, as for the rest. **gostar—**, to like better or best; to prefer. **Gostaria—de ficar aqui**, I'd rather stay here. **logo—**, a little later (on). **Não existe—**, It no longer exists. **não—**, no more, no longer, not again. **não—que**, not more than, only. **Não posso—!** I can't stand it any longer! **Não posso esperar muito—**, I cannot wait much longer. **Não quero—nada**, I want nothing more. **nunca—**, never more, never again. **o—**, the rest. **o—tardar**, at the latest. **os—dos homens**, most men. **outro tanto—**, as much again. **para—de**, upwards of. **por—que**, however much. **por—que custe**, whatever the price (cost). **pouco—ou menos**, almost, nearly, more or less. **Quanto—(ganhava), tanto—(gastava)**, The more (he earned), the more (he spent). **sem—nem menos**, without more ado; without warning; for no reason.
Maisena (*f.*) brand name of a corn starch.
maisquerer (*v.t.*) to like better, prefer.

[redacted]

A PORTUGUESE-ENGLISH DICTIONARY

JAMES L. TAYLOR
Lecturer in Hispanic American Studies
Stanford University

STANFORD UNIVERSITY PRESS
STANFORD, CALIFORNIA
1958

Stanford University Press
Stanford, California

Library of Congress Catalog Card Number: 58-6705

Printed in the United States of America

Canadian border into Arkansas, Ohio, and Georgia. However, the pest is uncommon in the southern parts of this range.

This maggot, one of the most serious insect pests of apple, either ruins the fruit entirely, or makes it unappetizing for consumption. Heavily infested fruit will be reduced to a brown, rotted mass, filled with yellowish, legless maggots. When the fruit is slightly infested, there is no external indication of maggots within. However, when the fruit ripens, burrows made by the maggots show as dark lines under the skin of the fruit. Larvae in prematurely dropped fruit can continue to live and become adult flies that will reinfest the fruit on the trees. Thus, it is important to remove and burn such fruit immediately after it has dropped. The adult flies appear in late June and early July, at which time they insert eggs under the skin of the fruit. Hibernation occurs in small puparia located just below the fruit surface. The sweet and subacid varieties of apple are the most frequently attacked varieties.

The *artichoke stem maggot* (*Straussia longipennis*) is a small, yellow-colored maggot which bores into the pith of the stems. The adults are yellow flies with two banded wings.

The *cabbage root maggot* (*Pegomya brassicae*) is a headless, legless, white maggot, about $\frac{1}{4}$ inch (6 millimeters) long, which destroys seed in the soil while also attacking the underground parts of plants which have germinated. For control, a suitable chemical insecticide, such as diazinon or chlordane, should be applied to the soil at the base of the plants when the leaves appear; the treatment should be repeated soon after transplanting or thinning. Such chemicals should not be applied to the edible parts once they are formed on the cabbage. This maggot also attacks radish.

The *onion maggot* (*Phorbia cepetorum*) is a legless, white, root-eating maggot which attains a length of about $\frac{1}{3}$ inch (8 millimeters). Distribution is in the northern United States. A dust spray containing malathion provides effective control, but this should not be applied within three days of harvesting.

The *orange maggot* (*Trypeta ludens*) is a dirty-white maggot that attains a length of about $\frac{1}{2}$ inch (12–13 millimeters). The maggot burrows into the pulp of the fruit and up to 20 maggots may be found in a single orange. The adult version is a light-yellow fly with brown markings and bands on the wings. The orange maggot is particularly serious in the Mexican citrus groves. Control is essentially by picking infested fruit and immediately destroying to prevent reinfestation.

The *mushroom maggot* (*Sciara sp.*) is a small maggot, white to yellow in color, with a black head. Treatment is mainly by prevention, keeping flies out of the mushroom growing area, fumigating regularly, and sterilizing the manure growing medium by heating to at least 150°F (66°C).

The *raspberry cane maggot* (*Phorbia rubivora*) is a small maggot, white, that burrows in new canes and girdles the shoot. During April and May, a fly deposits the eggs.

The *seed-corn maggot* (*Pegomya fusciceps*) attacks the germinating seeds and roots of many plants, notably bean and pea. This maggot is headless, legless, whitish in color. The best prevention is to use seed that have been commercially treated for seed-corn maggot control.

Other maggots that are quite destructive to food crops include the rice-stem maggot and the seed maggot.

MAGMA. The term for molten material. A natural, complex, liquid, high-temperature, silicate solution ancestral to all igneous rocks, both intrusive and effusive. The locus of a magma is within the lithosphere (crust) under great pressure and an impenetrable cover which helps the magma to retain its original gases and water vapor in solution. The origin of magma is not known but it is generally assumed that separate magma chambers may exist within the lithosphere.

MAGNESITE. The mineral magnesite is carbonate of magnesium, $MgCO_3$. It is a hexagonal mineral, but usually found massive. It has a rhombohedral cleavage; conchoidal fracture; brittle; hardness, 4–4.5; specific gravity is approximately 3.0 (average); luster, vitreous to dull; color, white, gray, yellow, or brown; transparent to opaque. Most magnesite is believed to have been derived from the action of carbonated waters upon rocks rich in magnesium. Magnesium-bearing waters, on the other hand, may have in some cases acted upon calcite or dolomite. Magnesite deposits are known in Greece, Austria, Norway, India, Australia, and the Republic of South Africa. In the United States, magnesite is found in California and Nevada, some of which deposits seem to be of original sedimentary character. Magnesite is in demand for the manufacture of refractories and various compounds of magnesium.

MAGNESIUM. [CAS: 7439-95-4]. Chemical element, symbol Mg, at. no. 12, at. wt. 24.305, periodic table group 2, mp 649°C, bp 1,090°C, critical temperature (calculated) 1,867°C, density 1.74 g/cm^3 (20°C), 1.64 g/cm^3 (solid at 650°C), 1.57 g/cm^3 (liquid at 650°C). Elemental magnesium has a close-packed hexagonal crystal structure, as do the common alloys of magnesium except those that contain lithium in excess of 11%.

Magnesium is a silver-white metal, malleable and ductile when heated; unattacked by dry oxygen, by H_2O or alkalis at room temperature; when heated to about 800°C reacts in air or steam and emits a brilliant white light of high actinic power; reactive with acids including carbonic at room temperature; reactive upon heating with nitrogen, phosphorus, arsenic, sulfur, in some cases with such vigor as to constitute a hazard.

Magnesium occurs extensively in the earth's crust, ranking 8th among the chemical elements in terrestrial abundance. An average composition of igneous rocks contains 2.09% magnesium. Of the elements present in seawater, magnesium ranks 5th with an estimated 6,125,000 tons of magnesium per cubic mile (1,323,000 metric tons per cubic kilometer) of seawater, its content exceeded only by hydrogen, oxygen, sodium, and chlorine. Magnesium is a constituent of over 150 minerals and also is found in bitterns and subterranean brines and salt beds. Only a few magnesium minerals are important commercially, notably dolomite [CAS: 17069-72-6], $CaO{\cdot}MgO{\cdot}2CO_2$, magnesite [CAS: 13717-00-5], brucite [CAS: 1317-43-7], carnallite [CAS: 1318-27-0], and olivine [CAS: 1317-71-1] as a source of magnesium. See also **Dolomite**. More than half of metallic magnesium produced is extracted from seawater. There are three naturally occurring isotopes, ^{24}Mg through ^{26}Mg; and three radioactive isotopes have been identified, ^{23}Mg, ^{27}Mg, and ^{28}Mg, all with comparatively short half-lives measured in seconds, minutes, or hours. The first known magnesium compound to be isolated was Epsom salt, $MgSO_4$, which Nehemiah Grew obtained in 1695 by evaporating the mineral waters at Epsom, England. In 1754, Joseph Black demonstrated that magnesia and lime were two different substances, but the exact identify of magnesia was not reported until 1808 by Sir Humphrey Davy who demonstrated that magnesia was an oxide of a heretofore unknown element. He first termed the element magnium. Metallic magnesium was first isolated by A. Bussy in 1828 when he fused magnesium chloride with potassium. Michael Faraday produced the first magnesium metal electrolytically in 1883. First ionization potential 7.64 eV; second, 14.97 eV. Oxidation potential $Mg \rightarrow Mg^{2+} + 2e^-$, 2.375 V; $Mg + 2OH^- \rightarrow Mg(OH)_2 + 2e^-$, 2.67 V. Other important physical properties of magnesium are given under **Chemical Elements**.

Production

There are two principal magnesium production processes: (1) electrolytic, and (2) metallothermic reduction. Electrolytic processes account for 80% of commercial production. In this process, seawater is pumped into large settling tanks where it is treated with lime. Roasted oyster shells sometimes are used if a convenient source is nearby. The lime precipitates the magnesium as the insoluble hydroxide. The hydroxide is filtered and then converted into a slurry with fresh H_2O. Subsequent treatment with HCl converts the $Mg(OH)_2$ into $MgCl_2$. The latter compound is dried and then electrolyzed in the fused state to produce molten magnesium and chlorine gas. The latter is recycled. The magnesium is cast into ingots. In the thermal or ferrosilicon process, used in some European countries, a mixture of magnesium oxide and powdered ferrosilicon (an iron-silicon alloy) is fed into a retort and heated under vacuum to about 1,200°C. The magnesium is freed in the form of vapor and condenses into crystals at the cool end of the retort. The crystals then are remelted and cast into pigs.

Uses of Magnesium

Magnesium finds principal uses as a primary metal to which other metals are added in various alloying amounts to enhance the properties of magnesium. Magnesium is the lightest of all structural metals and consequently the metal has enjoyed much attention over the years in connection with the transportation industry, notably for applications in the

aircraft, aerospace, and automotive industries. Vehicle designers constantly are aware of the additional power requirements for simply moving "dead weight" that wastes fuel and contributes to air pollution.

In addition to its use as a structural metal, magnesium is an important metallurgical chemical in the form of a deoxidizer and desulfurizer and as the constituent of numerous industrial and laboratory chemical compounds.

Magnesium Alloys. Even prior to the use of magnesium as a structural metal in the aerospace field, in 1921, Louis Chevrolet put a set of magnesium-alloy pistons in the Ford racing car that won the Indy 500 for him that year. The magnesium pistons gave racing and sports cars faster acceleration and deceleration. This application of magnesium was not intended so much as a dead-weight savings feature for the car, but rather more in terms of inertia (obviously also relative to weight). Although the magnesium pistons provided better acceleration/deceleration because of smaller inertia, the early designers encountered what is known as piston slap, which results when the piston material has a considerably higher coefficient of thermal expansion than the cylinder material does.

The use of magnesium castings for auto wheels was introduced a few years later and also serves the principal purpose of reducing inertia. With wheels, it is not just faster acceleration/deceleration that can be achieved, but also minimizing the amount of unsprung weight for a smoother and easier-to-control ride and minimizing the problem of gyroscopic action of the rapidly spinning wheels. Designers of racing cars switched from wire-spoke wheels to magnesium-alloy wheels in the early 1950s. The use of magnesium has increased not only in racing cars, but some passenger cars, both for the purpose of reducing inertia and weight. Today, magnesium is used for transmission and differential housings and a variety of other racing car parts. Serious attention continues to be given to major engine components, such as the cylinder block, head, and oil sump, all of which are candidates for reducing dead weight and increasing fuel economy.

The most extensive use of magnesium castings in automobiles commenced in 1936, with the introduction of the Volkswagen Beetle. Each Beetle used from 40 to 50 pounds (18 to 23 kg) of primary magnesium ingot plus scrap metal.

Magnesium has a density only $\frac{2}{3}$ that of aluminum, $\frac{1}{4}$ that of zinc, and about $\frac{1}{5}$ that of irons and steels. In addition to the obvious aerospace and automotive applications, other applications include hand trucks, containers, materials-handling equipment, portable electric and pneumatic tools (such as chain saws), hand tools, luggage, sporting goods, dockboards, and tooling jigs and fixtures. It has been found that lighter-weight equipment significantly reduces accidents and lost time due to injuries. On an arbitrary scale, where the power required to machine magnesium alloys is 1.0, the Figures for other metals are: aluminum alloys, 1.8; brass, 2.3; cast iron, 3.5; mild steel, 6.3; and nickel alloys, 10.0.

Some magnesium alloys are listed in Tables 1 and 2.

Magnesium in Other Metal Alloys. Magnesium is an important alloying ingredient in the production of other base metal alloys. When added during metallurgical processing, magnesium in small amounts has a marked effect on final properties of the metals:

Aluminum—Magnesium increases resistance to corrosion, facilitates heat treatment, and increases most mechanical properties. If magnesium-containing aluminum is remelted, the magnesium may be lost and should be replaced by adding pure magnesium to the casting ladle or pot.

Copper—Magnesium improves tensile strength and allows age hardening. Magnesium is used mainly as a deoxidizer, notably in copper-nickel-zinc alloys and in leaded brasses and bronzes. The magnesium is added during melting.

Lead—Magnesium increases hardness, strength, and resistance to creep. Magnesium also is used as a debismuthizer in refining primary lead.

Nickel—Magnesium, in combination with carbon, forms an age-hardenable alloy. The main use of magnesium is to deoxidize and

TABLE 1. REPRESENTATIVE MAGNESIUM ALLOYS

Alloy Designation	Elements Added	Tensile Strength 1,000 psi	Brinell Hardness	Melting Point °C	Forms Available	Features
AZ31B	3% Al 1% Zn	29	49	627	Sheet, plate, extrusions, forgings.	Moderate strength, good formability, general-purpose alloy. Dent resistant, weldable.
AZ91B	9% Al 0.6% Zn	33	67	596	Die casting alloy.	Good strength and castability. Popular for portable tools, business machines, vehicles.
AZ91C	8.7% Al 0.7% Zn	40	53	596	General-purpose sand and permanent-mold casting alloy.	Good castability, pressure tightness, and weldability. Moderate strength.
HK31A	3% Th 0.7% Zn 0.7% Zr	38	57	649	Sheet and plate for aerospace uses. (200–370 °C). Sand and permanent-mold castings.	Good short-time, elevated temperature characteristics. Weldable without stress relief. Low microporosity in cast form.
HM21A	0.6% Mn 2% Th	35	56	650	Sheet, plate, forgings for aerospace uses. (200–425 °C)	Very stable at elevated temperatures. Good creep strength and formability. Weldable without stress relief.
HM31A	1.2% Mn (min) 3% Th	44	63	605	Extrusions for aerospace uses. (200–425 °C)	Excellent elevated temperature properties. Weldable without stress relief.
QE22A	2% Pr 0.7% Zr 2.5% Ag	40	78	549	Castings for aerospace uses. (up to 260 °C)	Superior tensile strength plus excellent creep and fatigue strength.
ZK60A	5.7% Zn 0.5% Zr	47	—	635	Highly stressed parts of aerospace and military uses. Used as a forging alloy.	High strength, good toughness, good spot-weldability. Limited arc-weldability.

Note: 1 psi (pounds/square inch) = 0.0069 megapascal (MPa).

Designation of Magnesium Alloys (an ASTM system now accepted by the SAE). A four-part system is used:

1. Letters indicate the two principal alloying elements: A, Aluminum; E, Rare-Earth; H, Thorium; K, Zirconium; M, Manganese; Q, Silver, S, Silicon; T, Tin; Z, Zinc. Thus HK significes a thorium-zirconium magnesium alloy.
2. The approximate amounts (percent, wt) of the two principal alloying materials follow to the immediate right of the alloying element letters. Thus HK31 indicates approximately 3% thorium, and 1% zirconium.
3. The next two letter symbols to the right are used to distinguish two different alloys of the same chemical composition. Any letter may be used except I and O.
4. A fourth part of the designation (not indicated in this table) is separated by a dash from the foregoing parts and is used to indicate temper and other characteristics, such as F (as fabricated), 0 (annealed), H10 and H11 (slightly strain hardened), H23, H24, and H26 (strain hardened and partially annealed). T4 (solution heat treated), T5 (artificially aged only), T6 (solution heat treated and artificially aged), and T8 (solution heat treated, cold worked, and artificially aged). Thus, the complete designation may appear as: AZ91C-T6 for an aluminum-zinc-magnesium alloy containing 9% Al, 1% zinc, C indicating that this is the third alloy standardized with the same percentages of Al and Zn and T6 indicating that the alloy is solution treated and artificially aged.

TABLE 2. MAGNESIUM CASTING ALLOYS FOR AUTOMOTIVE APPLICATIONS

AM60B[2]	Die-casting alloy for uses needing toughness and ductility.		
	5.5–6.5% Al	0.25% Mn (min)	0.002% Ni (max)
	0.010% Cu max	0.22% Zn (max)	0.10% Si (max)
		0.005% Fe (max)	
AZ91D[2]	Provides an optimum combination of properties with die castability.		
	8.3–9.7% Al	0.15% Mn (min)	0.02% Ni (max)
	0.030% Cu (max)	0.35–1.0% Zn	0.10% Si (max)
		0.005% Fe (max)	
AZ91E[2]	A sand and permanent-mold casting alloy with properties and castability similar to AZ91B.		
	8.1–9.3% Al	0.17–0.5% Mn	0.0010% Ni (max)
	0.015% Cu (max)	0.40–1.0% Zn	0.20% Si (max)
		0.005% Fe (max)	
ZE41A	A sand and permanent mold casting alloy for applications to 175 °C (350 °F). Low microporosity and good pressure tightness.		
	0.0% Al	0.15% Mn (max)	0.40–1.0% Zr
	0.010% Cu (max)	0.75–1.75% Re	0.01% Ni (max)
		3.5–5.0% Zn	
ZC63	A proprietary sand and permanent-mold casting with properties similar to ZE41A, but less expensive.		
	0.0% Al	0.25–0.75% Mn	
	2.4–3.0% Cu	5.5–6.5% Zn	

desulfurize the melts, including pure nickel, nickel-chrome, and nickel-copper alloys.

Tin — Magnesium increases hardness and tensile strength. The effect of magnesium on tin can be dramatic. However, too much magnesium will reduce corrosion resistance and ductility.

Zinc — Magnesium improves dimensional stability and reduces the intergranular corrosion of zinc die castings. Magnesium refines the grain and increases hardness and creep strength of zinc sheet. Magnesium also is used in zinc-base bearing metals and in zinc alloy metalworking dies.

Magnesium alloy extrusions have become very popular for numerous items in recent years. Extrusion is particularly attractive as a parts making method — when extruded parts and sheet can be easily joined to form an assembly, where the desired shapes are too costly to machine from castings, and where pieces cut from extrusions can replace individually cast or forged parts. Final products with outstanding performance qualities coupled with light weight include concrete hand finishing tools, tennis racquets, portable shelters for the military, snowshoes, and improved luggage, among others.

The use of magnesium composites has become popular for rotary engine parts. Rotary engines remain attractive for business aircraft, boats, industrial equipment and compressors, and well over a million rotary-engine-powered cars have been built. In a research program (NASA Lewis Research Center) rotary engine parts are made from graphite-fiber-reinforced magnesium. An AZ91 C magnesium alloy is reinforced by 30% (vol) graphite fibers.

Progress has been in the early 1990s toward the development of metal-matrix composites (MMCs) that blend liquid magnesium alloys with ceramic particles, such as silicon carbide (SiC) and alumina (Al_2O_3). The method is similar to methods that have been developed for aluminum composites in that blending is accomplished by way of a high-shear process. Major differences of the new process result from increased general reactivity of magnesium and the difference in surface chemistry between the Al-SiC and Mg-SiC systems.

The particulate-reinforced MMCs are lightweight and demonstrate a significant increase in modulus and tensile strength at both ambient and elevated temperatures of the unreinforced material. The process was announced in late 1992 by Magnesium Elektron Ltd., Manchester, U.K.

Chemistry and Compounds

The behavior of magnesium is intermediate between that of beryllium and the higher alkaline earths. While it reacts readily with halogens, oxygen, and sulfur to form halides, oxide, and sulfide, it reacts with cold water only when the formation of protective oxide is prevented by amalgamation. All its compounds are divalent. Its oxide does not react with water to form the hydroxide, and it does not normally form a peroxide. Its major difference from the higher elements of the group is its much greater number of complexes. Anhydrous magnesium halides, especially, combine easily with many oxygen-functional organic compounds to form addition compounds. These reactions usually suggest covalent or dative bonding (both electrons from the oxygen) of the magnesium. Magnesium salts often form amines and amine complexes, though these are less stable than beryllium complexes. Magnesium also forms some basic salts, and many more of its salts are hydrated than are those of the higher alkaline earths. The metal reacts with alkyl and aryl halides to form the Grignard reagents, through which many organic reactions are conducted. The Grignard reagents themselves form complexes with ethers, tertiary amines, tertiary phosphines and many other type compounds. See also **Grignard Reactions**.

Important compounds of magnesium include the following:

Magnesium Acetate. [CAS: 142-72-3]. Anhydrous magnesium acetate, a white, crystalline, deliquescent solid, occurs in two forms: α-$Mg(C_2H_3O_2)_2$, formed by the reaction of MgO and concentrated acetic acid (13–33%) in boiling ethyl acetate, and β-$Mg(C_2H_3O_2)_2$ which is formed using 5–6% acetic acid. Of commercial interest is magnesium acetate tetrahydrate [CAS: 16674-78-5], $Mg(C_2H_3O_2)_2 \cdot 4H_2O$, a colorless to white crystalline solid obtained from aqueous solution. The tetrahydrate is the only stable phase below 68 °C, the transition point of the anhydrous salt. A monohydrate [CAS:60582-92-5], $Mg(C_2H_3O_2)_2 \cdot H_2O$, can be prepared from the reaction of MgO and acetic acid in slightly hydrated isobutyl alcohol.

Magnesium acetate is hygroscopic and should be stored in a cool, dry place. Personal protective equipment to be used when handling magnesium acetate includes chemical safety goggles, chemical resistant gloves, and a NIOSH/MSHA approved respirator. To keep exposure to respirable dust to a minimum, mechanical exhaust is required. Although magnesium acetate is a relatively low hazard chemical, intravenous poisoning can occur if this material is not handled properly. Magnesium acetate is incompatible with strong oxidizers. When heated to decomposition, acrid smoke and irritating fumes may evolve.

The largest use for magnesium acetate is in the production of rayon fiber, which is used for cigarette filter tow. Magnesium acetate also has uses as a dye fixative in textile printing, as a deodorant, disinfectant, an antiseptic in medicine, and as a reagent chemical.

Magnesium Acetylacetonate. [CAS: 14024-56-7], $Mg(C_5H_7O_2)_2$, crystalline powder, slightly soluble in water, resistant to hydrolysis, a chelating nonionizing compound.

Magnesium Alkyls. Magnesium alkyl compounds RMg, RMgR, or RMgR′, along with other compounds are useful as polymerization catalysts. These compounds should not be confused with alkyl magnesium halides or the much discussed ether solvated Grignard reagents. Magnesium alkyls may, however, be prepared from Grignard reagents. See also **Grignard Reactions**.

Magnesium alkyls are white, crystalline, pyrophoric solids that react vigorously with water, alcohols, and other compounds containing an active hydrogen. Magnesium alkyls, soluble in ether solutions but insoluble in benzene and some alkane solutions, decompose at 170–200 °C. The molecular weights of unsolvated compounds fall in the range of 100–200, but the molecular weights in solution, as determined by cryoscopic methods, are in the range of 1,000–10,000. The low solubility and high molecular weights in solution are attributed to extensive association resulting from the electron-deficiency of the magnesium.

Magnesium alkyls are used as polymerization catalysts for alpha-alkenes and dienes, such as the polymerization of ethylene, and in combination with aluminum alkyls and the transition-metal halides. Magnesium alkyls have been used in conjunction with other compounds in the polymerization of alkene oxides, alkene sulfides, acrylonitrile(qv), and polar vinyl monomers. Magnesium alkyls can be used as a liquid detergents. Also, magnesium alkyls have been used as fuel additives and for the suppression of soot in combustion of residual furnace oil.

Magnesium Amide. $Mg(NH_2)_2$, whitish to gray crystals, d1.40, decomposes when heated, formed by reaction of magnesium and ammonia under elevated pressure. Use: Catalyst for polymerization.

possible some of its uses, eg. stable permanent films to alter light transmission properties of optical and electronic materials. The reaction with sulfuric acid is so sluggish and incomplete that magnesium fluoride is not a suitable substitute for calcium fluoride in manufacturing hydrogen fluoride. Magnesium fluoride resists hydrolysis to hydrogen fluoride up to 750°C (61). Bimetallic fluorides, such as $KMgF_3$ [CAS: 28042-61-7], are formed on fusion of MgF_2 alkali metal and ammonium fluorides. MgF_2 is birefringent and only mildly affected by high energy radiation, making possible optics for the uv region.

Established uses of magnesium fluoride are as fluxes in magnesium metallurgy and in the ceramics industry. A proposed use is the extraction of aluminum from arc-furnace alloys with Fe, Si, Ti, and C. The molten alloy in reacting with magnesium fluoride volatilizes the aluminum and magnesium, which are later separated above the melting point of MgF_2. A welding flux for aluminum as well as fluxes for steel contains MgF_2.

Optical windows of highly purified magnesium fluoride which transmit light from the vacuum ultraviolet (140 nm) into the infrared are recommended for use as ultraviolet optical components for use in space exploration.

Magnesium Formate. $Mg(CHO_2)_2{\cdot}2H_2O$, colorless crystals, soluble in water; insoluble in alcohol and ether; combustible. Used in Analytical chemistry.

Magnesium Gluconate. $Mg(C_6H_{11}O_7)_2{\cdot}2H_2O$, white powder or fine needles, odorless, almost tasteless, soluble in water, combustible, formed by reaction of magnesia or magnesium carbonate dissolved in gluconic acid. Uses: Medicine, and vitamin tablets.

Magnesium Hydroxide. [CAS: 1309-42-8] $Mg(OH)_2$, occurs naturally as the mineral brucite [CAS: 1317-43-7]. Brucite, usually found as a low temperature, hydrothermal vein mineral associated with calcite, aragonite, talc, or magnesite, appears as a decomposition product of magnesium silicates associated with serpentine, dolomite, magnesite, and chromite. Brucite also occurs as a hydrated form of periclase, and is found in serpentine, marble, chlorite schists, and in crystalline limestone. At one time brucite was recovered commercially from deposits at Wakefield, Quebec and Nye County, Nevada; both operations have since ceased.

Magnesium hydroxide is produced from aqueous solutions of magnesium salts. To precipitate and recover magnesium hydroxide from solutions of magnesium salts, a strong base is added. The more commonly used base is calcium hydroxide [CAS: 1305-62-0], derived from lime [CAS: 1305-78-8], CaO, or dolime [CAS: 50933-69-2], CaO·MgO. Lime and dolime are calcination products of limestone and dolomite, respectively. See also **Lime and Limestone**.

The principal use of magnesium hydroxide is in the pulp and paper industries. The main captive use is in the production of magnesium oxide, chloride, and sulfate. Other uses include, ceramics, sugar refining, pharmaceuticals (antacid, laxative), plastics, flame retardants/smoke suppressants, residual fuel oil additive, sulfate pulp, uranium processing, dentrifrices, in foods as frying agent, color retention agent, frozen desserts, and the expanding environmental markets for wastewater treatment and SO_x removal from waste gases.

Magnesium Hypophosphite. $Mg(H_2PO_2)_2{\cdot}6H_2O$, white solid, soluble, formed by reaction of magnesium carbonate and hypophosphorous acid.

Magnesium Iodide. [CAS: 10377-58-9], can exist as two deliquescent and heat-sensitive compounds: the octahydrate [CAS: 7790-31-0], $MgI_2{\cdot}8H_2O$, and the hexahydrate [CAS: 75535-11-4], $MgI_2{\cdot}6H_2O$. Soluble in alcohols and many other organic solvents, and forms numerous addition compounds with alcohols, esters, aldehydes, esters, and amines. One example is magnesium iodide dietherate [CAS: 29964-67-8], $MgI_2{\cdot}2C_4H_{10}O$, prepared by gradual addition of iodine to a mixture of magnesium and dry ether. Magnesium iodide dietherate, which occurs as white, needle-like crystals, is very hygroscopic and becomes yellowish after several hours, and then brown after a day because of separation of iodine. The action of water upon magnesium iodide dietherate leads to the formation of the octahydrate salt, $MgI_2{\cdot}8H_2O$.

Magnesium iodide is used in the deoxygenation of oxiranes into olefins and iodine. Anhydrous MgI2 is used in a process for producing organometallic and organobimetallic compositions, which are important in the preparation of pharmaceutical and special chemicals.

Magnesium Methoxide. (magnesium methylate), [CAS: 27428-49-5] $(CH_3O)_2Mg$, colorless, crystalline solid, decomposes on warming, formed by reaction of magnesium and methanol. Uses: Dielectric coatings, a cross-linking agent to form stable gels, and catalyst.

Magnesium Lactate. $Mg(C_3H_5O_3)_2{\cdot}3H_2O$, white solid, soluble, formed by reaction of magnesium carbonate and lactic acid.

Magnesium Molybdate. [CAS: 13767-03-8] $MgMoO_4$, crystalline powder, soluble in water. Use: Electronic and optical applications.

Magnesium Nitrate. [CAS: 10377-60-3]. Anhydrous magnesium nitrate $Mg(NO_3)_2$, is very difficult to isolate, white crystals, D1.45, mp 95-100C, decomposes at 330C, soluble in water and alcohol, deliquescent. The commercial product is the deliquescent hexahydrate [CAS: 13446-18-9], $Mg(NO_3)_2{\cdot}6H_2O$.

Magnesium nitrate is prepared by dissolving magnesium oxide, hydroxide, or carbonate in nitric acid, followed by evaporation and crystallization at room temperature. Impurities such as calcium, iron, and aluminum are precipitated by pretreatment of the solution with slight excess of magnesium oxide, followed by filtration. Most magnesium nitrate is manufactured and used on site in other processes.

A soluble form of magnesium nitrate is used as a fertilizer in states such as Florida, where drainage through the porous, sandy soil depletes the magnesium. Used as a prilling aid in the manufacture of ammonium nitrate and in Pyrotechnics. Another use is as an alternative to sulfuric acid in the purification of nitric acid.

Magnesium Nitride. [CAS: 60195-15-5]. Mg_3N_2, yellow solid, with moist air or water yields ammonia and magnesium hydroxide, formed by heating magnesium to a high temperature in nitrogen or NH_3 (hydrogen gas evolved).

Magnesium Oleate. $Mg(C_{18}H_{33}O_2)_2$, yellowish mass, soluble in linseed oil, hydrocarbons, alcohol, and ether, insoluble in water, combustible, formed by reaction of soluble magnesium salt solution and sodium oleate. Uses: Varnish driers, in dry-cleaning solvents (to prevent spontaneous ignition), emulsifying agent, and lubricant for plasticizers.

Magnesium Oxalate. [CAS: 547-66-0]. $MgC_2O_4.2H_2O$, white solid, insoluble, K_{sp} 8.6×10^{-5}, formed by reaction of soluble magnesium salt solution and ammonium oxalate solution.

Magnesium Oxide. [CAS: 1309-48-4]. MgO, also known as magnesia, occurs in nature only infrequently as mineral periclase, most commonly as groups of crystals in marble. The principal commercial forms of magnesia are dead-burned magnesia (periclase), caustic-calcined (light-burned magnesia), hard-burned magnesia, and calcined dolomite. These materials are usually formed by the thermal decomposition or chemical reaction of various magnesium compounds including magnesite ore, magnesium hydroxide, magnesium chloride, and synthetic magnesium carbonate.

There are many processes for producing magnesium oxide. Martin Marietta Magnesia Specialties, Inc.,http://www.magspecialties.com/Default.htm, mines dolomitic limestone in Woodville, Ohio. The limestone is calcined at a high temperature under controlled conditions to produce calcined dolomite or dolime [CAS: 50933-69-2] which upon reaction with magnesium chloride-rich brine produces magnesium hydroxide and calcium chloride. The insoluble magnesium hydroxide is then separated from the liquid calcium chloride carrier and calcined under controlled conditions. The various grades of magnesia range from very reactive light-burned to nonreactive dead-burned.

Another process, in use globally, involves the mining, crushing, sizing, and subsequent calcination of natural magnesite. The chemical purity of the magnesia produced is dependent on the mineralogical composition of the natural magnesite. This magnesia is often less pure than magnesia produced by other processes.

The seawater process used by American Premier, National Magnesia Chemicals, and others, involves decarbonating limestone or dolomite to the point where all CO_2 is removed without converting the resulting magnesia to a chemically inactive form. Reaction of filtered seawater, treated to remove bicarbonate and/or sulfate, and dolime is followed by seeding with magnesium hydroxide to promote crystal growth. Upon formation of magnesium hydroxide, flocculants are added and the magnesium hydroxide precipitate is allowed to settle while the spent seawater is disposed to the sea. The precipitate is washed, filtered, and dried to obtain magnesium hydroxide, which is calcined to produce light-burned, hard-burned, or dead-burned magnesium oxide.

Dead Sea Periclase Ltd., on the Dead Sea in Israel, http://www.periclase.com/ uses yet another process to produce magnesium oxide. A concentrated magnesium chloride brine processed from the Dead Sea is sprayed into a reactor at about 1700 °C. The brine is thermally decomposed into magnesium oxide and hydrochloric acid. To further process the magnesia, the product is slaked to form magnesium hydroxide which is then washed, filtered, and calcined under controlled conditions to produce a variety of MgO reactivity grades.

Uses: Refactories, especially for steel furnace linings, polycrystalline ceramic for aircraft windshields, electrical insulation, pharmaceuticals and cosmetics, inorganic rubber accelerator, oxychloride and oxysulfate cements, paper manufacture, fertilizers, removal of sulfur dioxide from stack gases, adsorption and catalysis, semiconductors, and food and feed additive.

Magnesium Peroxide. [CAS: 14452-57-4]. MgO_2, white solid, insoluble in water, soluble in dilute acids with formation of hydrogen peroxide, formed by reaction of soluble magnesium salt solution and sodium or barium peroxide.

Magnesium peroxide is used mainly in medicine for treating hyperacidity in the gastric intestinal tract, and in the treatment of metabolic diseases such as diabetes and ketonuria. It is also used in the preparation of toothpaste and antiseptic ointments. All of these uses involve a mixture of magnesium peroxide, magnesium oxide, magnesium hydroxide, and an admixture of magnesium carbonate. Magnesium peroxide is also used in bleaching and agricultural applications. See also **Bleaching Agents**.

Magnesium Ammonium Phosphate. $MgNH_4PO_4$, white precipitate, K_{sp} 2.5×10^{-12}, by reaction of soluble salt solution and sodium phosphate in the presence of excess ammonium hydroxide, upon igniting yields magnesium pyrophosphate, $Mg_2P_2O_7$, white solid.

Magnesium Phosphate, Dibasic. (dimagnesium orthophosphate; dimagnesium phosphate; magnesium phosphate, secondary; magnesium hydrogen phosphate), [CAS: 7782-75-4]. $MgHPO_4 \cdot 3H_2O$, white, crystalline powder, D 2.13, loses water at 205C, decomposes at 550-650C, decomposes to pyrophosphate on heating, soluble in dilute acids, slightly soluble in water. Uses: Stabilizer for plastics, food additive, and medicine (laxative).

Magnesium Phosphate, Monobasic. (magnesium biphosphate; acid magnesium phosphate; magnesium tetrahydrogen phosphate), $MgH_4(PO_4)_2 \cdot 2H_2O$, white, hygroscopic, crystalline powder, decomposes to metaphosphate on heating, soluble in water and acids, insoluble in alcohol. Uses: Fireproofing wood, and as a stabilizer for plastics.

Mangnesium Phosphate, Tribasic. (Mangnesium phosphate, neutral; trimagnesium phosphate), $Mg_3(PO_4)_2 \cdot 8H_2O$ or $4H_2O$, soft, bulky, white powder, odorless, tasteless, loses all water at 400 C, soluble in acids, insoluble in water, formed by reaction of magnesium oxide and phosphoric acid at high temperatures. Uses: Dentifrice polishing agent, pharmaceutical antacid, adsorbent, stabilizer for plastics, food additive and dietary supplement.

Magnesium Salicylate. $Mg(C_7H_5O_3)_2 \cdot 4H_2O$, white solid, soluble in water and alcohol, formed by action of salicylic acid on magnesium hydroxide. Use: Medicine (antiinfective).

Magnesium Silicide. [CAS: 39404-03-0]. Mg_2Si, bluish crystals, mp 1085 C, d 1.9, decomposes on heating above 500 C, also by water and hydrochloric acid, formed by heating magnesium powder with silicon in ratio of 20:6. Uses: Semiconductor technology, and electrical equipment.

Magnesium Stannate. $MgSnO_3 \cdot 3H_2O$, white crystalline powder, decomposes at 340C, soluble in water. Use: Additive in ceramic capacitors.

Magnesium Stannide. Mg_2Sn, blue-white crystals, Mp 775C, soluble in water and dilute hydrochloric acid, has electrical and magnetic properties. Use: Semiconductor technology, magnetochemistry, thermoelectric research.

Magnesium Stearate. [CAS: 557-04-0]. $Mg(C_{18}H_{35}O_2)_2$ or with one H_2O, soft, white, light powder, tasteless, odorless, insoluble in water and alcohol. Uses: Dusting powder, lubricant in making tablets, drier in paints and varnishes, flatting agent, in medicines, stabilizer and lubricant for plastics, emulsifying agent in cosmetics, and dietary supplement.

Magnesium Sulfate. [CAS: 7487-88-9]. $MgSO_4$, is found widely in nature as either a double salt or as a hydrate, colorless crystals, very soluble in water, soluble in glycerol, sparingly soluble in alcohol. The more important mineral forms are: kieserite [CAS: 14168-73-1] $MgSO_4 \cdot H_2O$; starkeyite [CAS: 24378-31-2] $MgSO_4 \cdot 4H_2O$; pentahydrite [CAS: 15553-21-6] $MgSO_4 \cdot 5H_2O$; hexahydrite [CAS: 13778-97-7] $MgSO_4 \cdot 6H_2O$; epsomite [CAS: 10034-99-8] $MgSO_4 \cdot 7H_2O$; vanthoffite [CAS: 15557-33-2] $3Na_2SO_4 \cdot MgSO_4$; bloedite [CAS: 15083-77-9] $Na_2SO_4 \cdot MgSO_4 \cdot 4H_2O$; langbeinite [CAS: 13826-56-7] $K_2SO_4 \cdot 2MgSO_4$; leonite [CAS: 15226-80-9] $K_2SO_4 \cdot MgSO_4 \cdot 4H_2O$; schoenite [CAS: 15491-86-8] $K_2SO_4 \cdot MgSO_4 \cdot 6H_2O$; kainite [CAS: 67145-93-1] $4KCl \cdot 4MgSO_4 \cdot 11H_2O$; polyhalite [CAS: 15278-29-2] $K_2SO_4 \cdot MgSO_4 \cdot 2CaSO_4 \cdot 2H_2O$.

Magnesium sulfate forms many double salts, including naturally occurring minerals. The sulfuric acid double salts $MgSO_4 \cdot H_2SO_4$ [CAS: 10028-26-9], $MgSO_4 \cdot H_2SO_4 \cdot 3H_2O$ [CAS: 75198-53-7], and $MgSO_4 \cdot 3H_2SO_4$ [CAS: 39994-66-6] are crystallized from solutions of $MgSO_4$ in H_2SO_4. The amine double salts $MgSO_4 \cdot NH_3 \cdot 3H_2O$ [CAS: 75198-54-8], $MgSO_4 \cdot 2NH_3 \cdot 4H_2O$ [CAS: 75198-56-0], and $MgSO_4 \cdot 2NH_3 \cdot 2H_2O$ [CAS: 75198-55-9] are products of $MgSO_4 \cdot 7H_2O$ and gaseous ammonia.

Manufacture and Processing. Anhydrous $MgSO_4$ can be prepared only by dehydration of a hydrate. Crystallization from aqueous solution is not possible. Aqueous solutions of $MgSO_4$ can be prepared by dissolving MgO, $Mg(OH)_2$, or MgCO3 in sulfuric acid; or absorbing SO_2 using a $Mg(OH)_2$ slurry to form the soluble bisulfite, $Mg(HSO_3)2$, followed by air oxidation to $SO^{-2}{}_4$.

Technical-grade epsom salt is prepared by dissolving MgO, $Mg(OH)_2$, or $MgCO_3$ in sulfuric acid. The reaction mixture is crystallized to separate the product. In one process $MgSO_4$ solution is recycled from crystallizers to a reaction vessel containing sulfuric acid and low reactivity MgO. After pH adjustment to slightly acidic conditions and a 4–5 h reaction time, a 34% $MgSO_4$ mother liquor at 82 °C is produced. Iron is precipitated and insolubles are filtered from the mother liquor. Epsom salt is crystallized at 15 °C and screened; the 24% $MgSO_4$ filtrate is recycled. The epsom salt crystals are dried at low temperature in a rotary oven. Following filtration, the 34% mother liquor can be diluted to 24% and sold as a solution. The theoretical yield is 1 t of epsom salt per ton MgO. The actual yield depends on particle size, reactivity, and purity of the MgO. The heat of reaction is often the determining factor for using MgO or $Mg(OH)_2$ as the reagent. The $Mg(OH)_2$ reaction generates only 65–75% of the heat that the MgO reaction does.

To prepare a USP-grade epsom salt, higher purity MgO or $Mg(OH)_2$ is used. USP and food grades require low chloride levels, limiting allowable chloride content of the MgO to 0.08 wt %. Trace impurities including iron and aluminum are precipitated using excess MgO. Following crystallization, the epsom salt is washed free of mother liquor.

Natural and synthetic magnesium sulfate have a wide array of uses. The largest use for magnesium sulfate in all forms is for consumer goods. About 30% of magnesium sulfate is used in food additives and pharmaceuticals. Magnesium sulfate heptahydrate, epsom salts, is used for mineral baths and in medicine as a cathartic and analgesic soaking agent for bruises, sprains, localized inflammations, and insect bites. Magnesium sulfate is used as a micronutrient in some food products, and it is used in the production of high fructose corn syrup (HFCS). In the early 1980s, replacement of most or all of the sugar by HFCS in soft drinks was expected to increase the market for HFCS dramatically, and as a consequence, boost magnesium sulfate consumption by as much as 5% per year. Although some sugar has been replaced, the high estimates of growth for magnesium sulfate in this application did not materialize.

Animal feeds and fertilizers represent about 22% of the U.S. market for magnesium sulfate. Most applications for magnesium sulfate use synthetically produced material because of its higher purity. Purity requirements for animal feeds and fertilizers are not as stringent, so they use mainly the natural minerals, which are imported into the United States. The most effective way of preventing grass tetany is to provide magnesium to the pasture through fertilization. Magnesium also may be supplied in the form of epsom salts or kieserite that is added to the feed or drinking water.

Pulp and paper processing accounts for about 14% of magnesium sulfate use in the United States. Magnesium sulfate is used by kraft pulp mills that use oxygen delignification on soft woods, but it is also used in conjunction with sodium silicate to increase the life of hydrogen peroxide in oxygen-based bleaching processes. Miscellaneous use, which represent about 9% of magnesium sulfate demand, include textiles, matches, photographic

solutions, rubber coagulation, refractory bonding agent in bricks, and oxysulfate cements.

Magnesium Sulfide. [CAS: 12032-36-9] MgS, red-brown, crystalline solid, decomposes above 2000C, decomposes in water. Use: Source of hydrogen sulfide, laboratory reagent.

Magnesium Sulfite. White, crystalline powder, D 1.725, mp loses $6H_20$ at 200C, bp (decomposes), slightly soluble in water, insoluble in alcohol.

The white hexahydrate [CAS: 13446-29-2], $MgSO_3{\bullet}6H_20$, is prepared by adding an excess of sulfur dioxide, SO_2, to a suspension of magnesium hydroxide, $Mg(OH)_2$, or basic magnesium carbonate, [CAS: 12306-51-3], $5MgO{\cdot}4CO_2{\cdot}5H_2O$. The formation of magnesium bisulfite (magnesium hydrogen sulfite), $MgHSO_3$, unisolable in solid form, in the presence of excess SO_2 increases the solubility of magnesium sulfite in the liquid phase. In dilute solutions of both magnesium sulfite and magnesium bisulfite, the solubility of magnesium sulfite increases with increasing temperature independent of $MgHSO_3$ concentration. The basic salt $11MgSO_3{\cdot}2Mg(OH)_2{\cdot}22H_2O$ forms as dilute solutions of magnesium sulfite are heated.

Use: Manufacture of paper pulp (as bisulfite). See also **Pulp (Wood) Production and Processing**.

Magnesium Sulfonates. Magnesium sulfonates are detergents containing magnesium carbonate or magnesium complexes as the metallic portion, and an oil-soluble magnesium-based substrate, dispersed as a colloid in petroleum oil. By definition a soap is commonly the sodium or potassium salt of a high molecular weight fatty acid. The term metallic soap refers to substitution of another metal for the sodium, in this case, magnesium. Classification of detergents reflects their alkalinity. Magnesium sulfonates may be either neutral or overbased.

Principal uses of magnesium sulfonates are as additives to engine oils, automatic transmission fluids, gear oils and industrial oils. See also **Hydraulic Fluid**. In engine lubricating oils, in concentrations of 1–2%, the primary function is as a sludge dispersant and neutralizer of acidic contaminants from partially oxidized fuels, oil degradation products, and NOx. The noncarbonated forms may be used also in corrosion-resistant coatings for metals, and as liquid fuel additives, in smoke suppression and in vanadium scavenging

Mangnesium Tungstate. [CAS: 13573-11-0], (magnesium wolframate) $MgWO_4$, white crystals, D 5.66, soluble in acids, insoluble in water and alcohol, formed by interaction of solutions of magnesium sulfate and ammonium tungstate. Use: Fluorescent screens for X-rays, luminescent paint.

Magnesium Zirconium Silicate. $MgZrSiO_5$, or $MgO{\bullet}ZrO_2{\bullet}SiO_2$, white solid, mp 1760 C, d 80 lb/ft^3, insoluble in water and alkalies, slightly soluble in acids. Use: Electrical resistor, ceramics, glaze opacifier.

Additional Reading

Avedesian, M.M. and H. Baker: *Magnesium and Magnesium Alloys*, ASM International, Materials Park, OH, 1999.

Davis, J.R.: *Metals Handbook*, 2nd Edition, ASM International, Materials Park, OH, 1998.

Greenwood, N.N. and A. Earnshaw: *Chemistry of the Elements*, 2nd Edition, Butterworth-Heiemann, Inc., Woburn, MA, 1997.

Kainer, K.U.: *Magnesium Alloys and Their Applications*, John Wiley & Sons, Inc., New York, NY, 2000.

Kainer, K.U.: *Magnesium Alloys and Technologies*, John Wiley & Sons, Inc., New York, NY, 2003.

Kainer, K.U.: *Magnesium: Proceedings of the 6th International Conference Magnesium Alloys and their Applications*, John Wiley & Sons, Inc., New York, NY, 2004.

Kaplan, H.I., J. Hryn, and B. Clow: *Magnesium Technology 2000: Proceedings of the Symposium Sponsored by the Light Metals Division of the Minerals, Metals and Materials Society (TMS) and the International Magnesium*, Warrendale, PA, 2000.

Krebs, R.E.: *The History and Use of Our Earth's Chemical Elements*, Greenwood Publishing Group, Inc., Westport, CT, 1998.

Lide, D.R.: *CRC Handbook of Chemistry and Physics*, 88th, Edition, CRC Press, LLC., Boca Raton, FL, 2007.

MAGNESIUM (In Biological Systems). Magnesium is an integral part of the molecule of chlorophyll, the green pigment in plants that absorbs solar energy. See also **Chlorophylls**. Magnesium deficiency is a fairly common cause of poor crop yields, especially among crops produced on sandy soils. Magnesium is a prosthetic ion in enzymes that hydrolyze and transfer phosphate groups. Hence it is essential for energy-requiring biological functions, such as membrane transport, generation and transmission of nerve impulses, contraction of muscles, and oxidative phosphorylation. See also **Phosphorylation (Oxidative)**. Magnesium is essential for the maintenance of ribosomal structure and thus protein synthesis. Magnesium may be related to the incidence of ischemic heart disease among Western populations.

The accumulation of magnesium from the soil by plants is strongly affected by the species of plant. The leguminous plants, such as clovers, beans, and peas, usually contain more magnesium than grasses, tomatoes, corn (maize), and other nonleguminous plants, regardless of the level of available magnesium in the soil where they grow.

A very high level of available potassium in the soil interferes with the uptake of magnesium by plants, and magnesium deficiency in plants is often found in soils that are very high in available potassium. High levels of available potassium may occur naturally, especially in soils of subhumid and semiarid regions; or they may be caused by heavy applications of certain commercial fertilizers or animal manure. On sandy and loamy soils, applications of magnesium fertilizers are often effective in increasing crop yields and the concentration of magnesium in the crop, but on fine-textured, clay-containing soils, especially those with substantial reserves of potassium, the application of a magnesium fertilizer may not cause higher magnesium concentration in crops. Since magnesium is not a highly toxic element in either plants or animals, precautions against its overuse are rarely necessary. When animals are fed diets primarily of grains, a proper balance among magnesium, calcium, and phosphorus should be maintained to minimize danger from urinary calculi.

The biological functions of magnesium, such as its essential role as a nutrier, its activation of enzyme systems, and its pharmacological properties, have been widely investigated. Nevertheless, some aspects of its critical physiological role remain obscure.

Distribution in System. Magnesium, primarily an intracellular ion, is distributed among all tissues. It constitutes about 0.05% of the animal body and, of this, 60% occurs in the skeleton and only 1% in extracellular fluids.

Reported serum magnesium values for most species range from 1.0 to 3.5 meg/liter, with a mean value of about 2. Between 65% and 80% of the plasma magnesium is ultrafilterable, and most of this exists as the free ion. The nonfilterable portion is reversibly bound to plasma protein. Cerebrospinal fluid contains slightly more than plasma. Interstitial fluid is similar to plasma ultrafiltrate.

The magnesium content of soft tissues varies from 0.06 to 0.13% of dry weight and remains remarkably constant regardless of the magnesium status of the animal. Normally, the intracellular concentration is more than 20 times that of the interstitial fluid, and the highest concentration occurs in the cell nucleus. Maintenance of such a large concentration gradient across the cell membrane suggests an active transport mechanism.

In late 1990's, R.R. Preston (University of Wisconsin–Madison) reported that recent reappraisals of the role of ionized magnesium in cell function suggests that many cells maintain intracellular free Mg^{2+} at low concentrations and that external agents can influence cell functions via changes in intracellular Mg^{2+} concentration. There is considerable evidence to suggest that intracellular free magnesium ions may be a key physiological regulator of cell activity.

The relatively large proportion of magnesium found in the skeleton, which amounts to about 0.6% of dry, fat-free bone, serves in part as a body reserve. It occurs largely as Mg^{2+} and $MgOH^+$ ions held by electrostatic attraction to the apatite crystal surface. During deficiency in young animals, 30% or more of bone magnesium can be mobilized for metabolic functions. Calcium ions appear to replace the magnesium that occupied the original adsorption sites.

Metabolism. The rate of absorption from the intestine exerts an important role in magnesium metabolism. Whereas in vitro studies show that magnesium absorption is positively correlated with the concentration of magnesium, it does not appear to be a purely passive process. Magnesium absorbed in excess of body needs is excreted primarily by way

VAN NOSTRAND'S

SCIENTIFIC ENCYCLOPEDIA

Tenth Edition

VOLUME 2

Glenn D. Considine
Editor-in-Chief

Peter H. Kulik
Associate Editor

WILEY-INTERSCIENCE
A John Wiley & Sons, Inc., Publication

Published by John Wiley & Sons, Inc., Hoboken, New Jersey
Published simultaneously in Canada

Library of Congress Cataloging-in-Publication Data:

Van Nostrand's scientific encyclopedia. — 10th ed. / edited by Glenn D. Considine.
p. cm.
Includes index.
"Three volume set."
ISBN 978-0-471-74338-5 (cloth)
1. Science—Encyclopedias. 2. Engineering—Encyclopedias. I. Considene, Glenn D. II. Title: Scientific encyclopedia.
Q121.V3 2008
503–dc22

2007046658

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

To:	Magnesita Refractories Company (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 85834316 - MAGNESITA - MAGN6029/TJM
Sent:	3/26/2014 10:35:17 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)

IMPORTANT NOTICE REGARDING YOUR U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION (OFFICIAL LETTER) HAS ISSUED
ON **3/26/2014** FOR U.S. APPLICATION SERIAL NO. 85834316

Please follow the instructions below:

(1) TO READ THE LETTER: Click on this link or go to http://tsdr.uspto.gov, enter the U.S. application serial number, and click on "Documents."

The Office action may not be immediately viewable, to allow for necessary system updates of the application, but will be available within 24 hours of this e-mail notification.

(2) TIMELY RESPONSE IS REQUIRED: Please carefully review the Office action to determine (1) how to respond, and (2) the applicable response time period. Your response deadline will be calculated from **3/26/2014** (*or sooner if specified in the Office action*). For information regarding response time periods, see http://www.uspto.gov/trademarks/process/status/responsetime.jsp.

Do NOT hit "Reply" to this e-mail notification, or otherwise e-mail your response because the USPTO does NOT accept e-mails as responses to Office actions. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System (TEAS) response form located at http://www.uspto.gov/trademarks/teas/response_forms.jsp.

(3) QUESTIONS: For questions about the contents of the Office action itself, please contact the assigned trademark examining attorney. For *technical* assistance in accessing or viewing the Office action in the Trademark Status and Document Retrieval (TSDR) system, please e-mail TSDR@uspto.gov.

WARNING

Failure to file the required response by the applicable response deadline will result in the ABANDONMENT of your application. For more information regarding abandonment, see http://www.uspto.gov/trademarks/basics/abandon.jsp**.**

PRIVATE COMPANY SOLICITATIONS REGARDING YOUR APPLICATION: Private companies **not** associated with the USPTO are using information provided in trademark applications to mail or e-mail trademark-related solicitations. These companies often use names that closely resemble the USPTO and their solicitations may look like an official government document. Many solicitations require that you pay "fees."

Please carefully review all correspondence you receive regarding this application to make sure that you are responding to an official document from the USPTO rather than a private company solicitation. All official USPTO correspondence will be mailed only from the "United States Patent and Trademark Office" in Alexandria, VA; or sent by e-mail from the domain "@uspto.gov." For more information on how to handle private company solicitations, see http://www.uspto.gov/trademarks/solicitation_warnings.jsp.

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM - Request for Reconsideration Denied - No Appeal Filed
Sent:	3/27/2014 9:15:53 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	Attachment - 1 Attachment - 2 Attachment - 3 Attachment - 4 Attachment - 5 Attachment - 6 Attachment - 7 Attachment - 8 Attachment - 9 Attachment - 10 Attachment - 11 Attachment - 12 Attachment - 13 Attachment - 14 Attachment - 15 Attachment - 16 Attachment - 17 Attachment - 18 Attachment - 19 Attachment - 20 Attachment - 21 Attachment - 22 Attachment - 23 Attachment - 24 Attachment - 25 Attachment - 26 Attachment - 27 Attachment - 28 Attachment - 29 Attachment - 30 Attachment - 31 Attachment - 32

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)

OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

U.S. APPLICATION SERIAL NO. 77873477

MARK: MAGNESITA

77873477

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

GENERAL TRADEMARK INFORMATION:
http://www.uspto.gov/trademarks/index.jsp

APPLICANT: MAGNESITA REFRACTORIES COMPANY

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6002/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

REQUEST FOR RECONSIDERATION DENIED

ISSUE/MAILING DATE: 3/27/2014

The trademark examining attorney has carefully reviewed applicant's request for reconsideration and is denying the request for the reasons stated below. *See* 37 C.F.R. §2.64(b); TMEP §§715.03(a)(2)(B), (a)(2)(E), 715.04(a). The requirement(s) and/or refusal(s) made final in the Office action dated October 4, 2013 are maintained and continue to be final. *See* TMEP §§715.03(a)(2)(B), (a)(2)(E), 715.04(a).

In the present case, applicant's request has not resolved all the outstanding issue(s), nor does it raise a new issue or provide any new or compelling evidence with regard to the outstanding issue(s) in the final Office action. In addition, applicant's analysis and arguments are not persuasive nor do they shed new light on the issues. Accordingly, the request is denied.

The filing of a request for reconsideration does not extend the time for filing a proper response to a final Office action or an appeal with the Trademark Trial and Appeal Board (Board), which runs from the date the final Office action was issued/mailed. *See* 37 C.F.R. §2.64(b); TMEP §715.03, (a)(2)(B), (a)(2)(E), (c).

If time remains in the six-month response period to the final Office action, applicant has the remainder of the response period to comply with and/or overcome any outstanding final requirement(s) and/or refusal(s) and/or to file an appeal with the Board. TMEP §715.03(a)(2)(B), (c). However, if applicant has already filed a timely notice of appeal with the Board, the Board will be notified to resume the appeal. *See* TMEP §715.04(a).

This letter responds to the applicant's correspondence filed on March 14, 2014.

The applicant should note that if it wishes to appeal this decision a notice of appeal must be filed by April 4, 2014.

Request for Reconsideration Denied Section 2(f) Claim Fails
The applicant responded to the refusal of the applicant's claim of acquired distinctiveness by submitting evidence of domestic sales in the United States. The applicant also submitted a Canadian registration and an article in a trade journal about the applicant buying a domestic refractory products company. Applicant has asserted acquired distinctiveness based on the evidence of record; however, such evidence still is not sufficient to show acquired distinctiveness because, as demonstrated by the attached and previously attached evidence, applicant's mark is of a highly descriptive nature. *See* 15 U.S.C. §1052(e)(1), (f); *In re MetPath, Inc.*, 1 USPQ2d 1750, 1751-52 (TTAB 1986); TMEP §1212.04(a). Additional evidence is needed.

As discussed in prior office actions, the term MAGNESITA is translated as magnesite. The term magnesita is Portuguese. The applicant is a Brazilian company. Portuguese is not an obscure language.

The examining attorney has attached excerpts of different scientific dictionaries and other reference books that discuss magnesite, magnesia or magnesium. These terms are used interchangeably. All of these dictionaries reference the fact that this compound is the primary component of refractory products. The applicant's goods and services are for refractory products or for services relating to refractories or refractory products.

When asserting a Trademark Act Section 2(f) claim, the burden of proving that a mark has acquired distinctiveness is on the applicant. *Yamaha Int'l Corp. v. Yoshino Gakki Co.*, 840 F.2d 1572, 1578-79, 6 USPQ2d 1001, 1004 (Fed. Cir. 1988); *In re Meyer & Wenthe, Inc.*, 267 F.2d 945, 948, 122 USPQ 372, 375 (C.C.P.A. 1959); TMEP §1212.01. Thus, applicant must establish that the purchasing public has come to view the proposed mark as an indicator of origin.

In the present case, applicant's evidence consists of the following: a copy of a Canadian registration. This evidence is insufficient to show acquired distinctiveness of the proposed mark because the fact that the applicant has a Canadian registration is completely irrelevant in establishing acquired distinctiveness in the United States. Furthermore, the applicant only claims use since October of 2010, which is only approximately 3 ½ years of use.

The evidence of domestic sales is for a year and a half in the United States. For marks of a highly descriptive nature the applicant needs to demonstrate acquired distinctiveness by more evidence than the applicant has submitted. The applicant needs to demonstrate that consumers of the applicant's goods and services recognize the applicant's mark and associate it with the applicant's goods and services. The applicant has not submitted any evidence of advertising in the United States. The applicant has not submitted any evidence that its consumers recognize the applicant's proposed mark as the source of its goods and services. The applicant also should give domestic sales data for more than a year and a half.

To support the claim of acquired distinctiveness, applicant may respond by submitting additional evidence. *In re Half Price Books, Records, Magazines, Inc.*, 225 USPQ 219, 220 n.2 (TTAB 1984); TMEP §1212.02(g). Such evidence may include specific dollar sales under the mark, advertising figures, samples of advertising, consumer or dealer statements of recognition of the mark as a source identifier, affidavits, and any other evidence that establishes the distinctiveness of the mark as an indicator of source. *See* 37 C.F.R. §2.41(a); *In re Ideal Indus., Inc.*, 508 F.2d 1336, 1339-40, 184 USPQ 487, 489-90 (C.C.P.A. 1975); *In re Instant Transactions Corp. of Am.*, 201 USPQ 957, 958-59 (TTAB 1979); TMEP §§1212.06 *et seq.*

If additional evidence is submitted, the following factors are generally considered when determining whether a proposed mark acquired distinctiveness based on extrinsic evidence: **(1) length and exclusivity of use of the mark in the United States by applicant; (2) the type, expense, and amount of advertising of the mark in the United States; and (3) applicant's efforts in the United States to associate the mark with the source of the goods and/or services, such as unsolicited media coverage and consumer studies**. *See In re Steelbuilding.com*, 415 F.3d 1293, 1300, 75 USPQ2d 1420, 1424 (Fed. Cir. 2005); *Bd. of Trs. v. Pitts, Jr.*, 107 USPQ2d 2001, 2016 (TTAB 2013). A showing of acquired distinctiveness need not consider all these factors, and no single factor is determinative. *In re Steelbuilding.com*, 415 F.3d at 1300, 75 USPQ2d at 1424; *see* TMEP §§1212.06 *et seq.* The USPTO will decide each case on its own merits.

If applicant cannot submit additional evidence to support the claim of acquired distinctiveness, applicant may respond to the refusal by arguing in support of registration and/or amending the application to seek registration on the Supplemental Register. *See* 15 U.S.C. §1091; 37 C.F.R. §§2.47, 2.75(a); TMEP §§801.02(b), 816. If applicant amends the application to the Supplemental Register, applicant is not precluded from submitting evidence and arguments against this refusal. TMEP §816.04. The applicant should also note that, at least with respect to the identification of goods in International Class 19, the Supplemental Register is more than likely not an option because the proposed mark would be considered generic with respect to the goods.

For the above reasons, the request for reconsideration is denied.

<u>Response Guidelines</u>

Applicant must respond within six months of the date of issuance of this final Office action or the application will be abandoned. **The applicant has one week left in the response period.** 15 U.S.C. §1062(b); 37 C.F.R. §2.65(a). Applicant may respond by providing one or both of the following:

(1) A response that fully satisfies all outstanding requirements;

(2) An appeal to the Trademark Trial and Appeal Board, with the appeal fee of $100 per class.

37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.6(a)(18); TBMP ch. 1200.

In certain rare circumstances, an applicant may respond by filing a petition to the Director pursuant to 37 C.F.R. §2.63(b)(2) to review procedural issues. 37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.146(b); TBMP §1201.05; TMEP §1704 (explaining petitionable matters). The petition fee is $100. 37 C.F.R. §2.6(a)(15).

/Dawn Feldman Lehker/
Trademark Examining Attorney
Law Office 111
U.S. Patent and Trademark Office
(571)272-9381
dawn.feldman-lehker@uspto.gov

"Maglite" ***[Hall].*** (magnesium oxide).
CAS: 1309-48-4. TM for acid acceptor and stabilizer.
Use: In rubber, plastic thickener filler, and smoke suppressant.

mag-lith. A magnesium-lithium alloy used as a structural metal in space vehicles.

magma. (1) In medicine, a class of preparations in which finely divided, freshly precipitated, insoluble, inorganic hydroxides are suspended in water to form a viscous, opaque mixture that may settle out on standing. Magmas of bismuth, magnesium, and iron are used, commonly called milk of bismuth, milk of magnesia, etc. (2) In geology, a molten mass within the earth's crust (e.g., lava). The source of igneous rock.

magnalium. An alloy of aluminum and magnesium.

magnesia. Magnesium oxide that has been specially processed.
See magnesium oxide.

magnesia alba. See magnesium carbonate; magnesium carbonate, basic.

magnesia-alumina. $MgO{\bullet}Al_2O_3$. A synthetic spinel.

magnesia, burnt. See magnesite, dead-burned.

magnesia, calcined. See magnesite, caustic-calcined.

magnesia, caustic-calcined. See magnesite, caustic-calcined.

magnesia-chromia. $MgO{\bullet}Cr_2O_3$. A synthetic spinel.

magnesia, dead-burned. See magnesite, dead-burned.

magnesia, fused. Used as a refractory and to handle electricity at high temperatures.

magnesia, lightburned. A special high-purity magnesium oxide.

magnesite. (natural magnesium carbonate).
CAS: 546-93-0. ($MgCO_3$). The term magnesite is loosely used as a synonym for magnesia as are also the terms *caustic-calcined magnesite, dead-burned magnesite,* and *synthetic magnesite.*
Hazard: A nuisance particulate.
Properties: White, yellowish, grayish-white, or brown crystalline solid. D 3–3.12, Mohs hardness 3.5–4.5.
Occurrence: U.S. (California, Washington, Nevada), Austria, Greece.
Use: To make the various grades of magnesium oxide, to produce carbon dioxide, refractory.
Hazard: TLV: 10 mg/m^3.
See magnesium carbonate.

magnesite, burnt. See magnesite, dead-burned.

magnesite, caustic-calcined. (caustic-calcined magnesia; calcined magnesite; calcined magnesia. Principally magnesia (magnesium oxide) MgO). The product obtained by firing magnesite or other substances convertible to magnesia upon heating at some temperature below 1450C so that some carbon dioxide is retained (2–10%) and the magnesium oxide displays adsorptive capacity or activity.
Grade: Technical, chemical, synthetic rubber, USP (light, medium light, heavy).
Use: Magnesium oxychloride and oxysulfate cements, 85% magnesia insulation, rubber (reinforcing agent, accelerator), uranium processing, chemical processing, rayon, refractories, paper pulp, acid-neutralizing fertilizers, welding-rod coatings, fillers, glass constituents, abrasives.
See magnesium oxide.

magnesite, dead-burned. (burnt magnesia; dead-burned magnesia; refractory magnesia; burnt magnesite; magnesium oxide). MgO. The granular product obtained by burning (firing) magnesite or other substances convertible to magnesia upon heating above 1450C long enough to form granules suitable for use as a refractory (ASTM). Synthetic magnesium hydroxide or chloride is sometimes used instead of magnesite as a source.
Grade: 85–87% (from magnesite ores); 97–99% (from seawater and brines).
Use: Refractories, as grains or basic brick, the latter especially in open hearth furnaces for steel, furnaces for nonferrous metal smelting, and in cement and other kilns.
See magnesium oxide.

magnesite, synthetic. Magnesium oxide, MgO, as obtained from seawater, seawater bitterns, or well brines. The preliminary product is usually magnesium hydroxide or chloride, which is then heated, or sometimes treated with steam and heated in the case of the chloride, to obtain the oxide. Synthetic magnesite constitutes the purer grades of dead-burned magnesite.

magnesium.
CAS: 7439-95-4. Mg. Metallic element of atomic number 12, group IIA of the periodic table, aw 24.305, valence = 2; 3 isotopes. Magnesium is the central element of the chlorophyll molecule; it is also an important component of red blood corpuscles.

Properties: Colorless crystals. Soluble in water; insoluble in alcohol and ether. Combustible.
Derivation: Action of formic acid on magnesium oxide.
Use: Analytical chemistry.

magnesium gluconate. $Mg(C_6H_{11}O_7)_2 \bullet 2H_2O$.
Properties: White powder or fine needles; odorless; almost tasteless. Soluble in water. Combustible.
Derivation: Magnesia or magnesium carbonate dissolved in gluconic acid.
Grade: Pharmaceutical.
Use: Medicine, vitamin tablets.

magnesium glycerophosphate. (magnesium glycerinophosphate).
$CH_2(OH)CH(OH)CH_2OP(O)O_2Mg$.
Properties: Colorless powder. Soluble in water; insoluble in alcohol. Combustible.
Derivation: Action of glycerophosphoric acid on magnesium hydroxide.
Use: Stabilizer for plastics.

magnesium hydrogen phosphate. See magnesium phosphate, dibasic.

magnesium hydroxide. (magnesium hydrate in aqueous suspension; milk of magnesia; magnesia magma).
CAS: 1309-42-8. $Mg(OH)_2$.
Properties: White powder; odorless. D 2.36, mp decomposes at 350C. Soluble in solution of ammonium salts and dilute acids; almost insoluble in water and alcohol. Noncombustible.
Derivation: Precipitation from a solution of a magnesium salt by sodium hydroxide, precipitation from seawater with lime. It occurs naturally as brucite.
Grade: Technical, NF, FCC.
Use: Intermediate for obtaining magnesium metal, sugar refining, medicine (antacid, laxative), residual fuel oil additive, sulfite pulp, uranium processing, dentrifrices, in foods as drying agent, color retention agent, frozen desserts.

magnesium lauryl sulfate.
$Mg(OSO_3C_{12}H_{25})_2$.
Properties: Pale yellow liquid; mild odor. Soluble in methanol, acetone, and water; insoluble in kerosene. Combustible.
Derivation: Sulfonation of lauryl alcohol and interaction with a magnesium salt.
Use: Surfactant and anionic detergent, foaming, wetting, and emulsifying agent.

magnesium lime. Same as magnesium limestone.
See limestone.

magnesium limestone. See limestone.

magnesium methoxide. (magnesium methylate). $(CH_3O)_2Mg$.
Properties: Colorless, crystalline solid. Decomposes on warming.
Derivation: Reaction of magnesium and methanol.
Use: Dielectric coating, cross-linking agent to form stable gels, catalyst.

magnesium methylate. See magnesium methoxide.

magnesium molybdate. $MgMoO_4$.
Properties: Crystalline powder. Absolute d 2.8, mp approximately 1060C. Soluble in water.
Use: Electronic and optical applications.

magnesium nitrate.
CAS: 10377-60-3. $Mg(NO_3)_2 \bullet 2H_2O$.
Properties: White crystals. D 1.45, mp 95–100C, decomposes at 330C. Soluble in water and alcohol; deliquescent.
Derivation: Action of nitric acid on magnesium oxide with subsequent crystallization.
Hazard: Dangerous fire and explosion risk in contact with organic materials, strong oxidizing agent.
Use: Pyrotechnics.

magnesium oleate. $Mg(C_{18}H_{33}O_2)_2$.
Properties: Yellowish mass. Soluble in linseed oil, hydrocarbons, alcohol, and ether; insoluble in water. Combustible.
Derivation: Interaction of magnesium chloride and sodium oleate.
Use: Varnish driers, in dry-cleaning solvents (to prevent spontaneous ignition), emulsifying agent, lubricant for plasticizers.

magnesium orthophosphate. See magnesium phosphate.

magnesium oxide. (magnesia).
CAS: 1309-48-4. MgO. Two forms are produced, one a light, fluffy material prepared by a relatively low-temperature dehydration of the hydroxide, the other a dense material made by high-temperature furnacing of the oxide after it has been formed from the carbonate or hydroxide.
See periclase.
Properties: White powder, either light or heavy depending upon whether it is prepared by heating magnesium carbonate or the basic magnesium carbonate. D approximately 0.36 (varies), mp 2800C, bp 3600C. Slightly soluble in water; soluble in acids and ammonium salt solutions. Noncombustible.
Derivation: (1) By calcining magnesium carbonate or magnesium hydroxide, (2) by treating magnesium chloride with lime and heating or by heating it in air, (3) from seawater via the hydroxide.
Grade: Technical, CP, USS, FCC, 99.5%, fused, low boron, rubber, semiconductor, single crystals.
Hazard: Toxic by inhalation of fume. TLV: 10 $mg(Mg)/m^3$ (fume).
Use: Refractories, especially for steel furnace linings, polycrystalline ceramic for aircraft wind-

shields, electrical insulation, pharmaceuticals and cosmetics, inorganic rubber accelerator, oxychloride and oxysulfate cements, paper manufacture, fertilizers, removal of sulfur dioxide from stack gases, adsorption and catalysis, semiconductors, pharmaceuticals, food and feed additive.
See "Maglite" *[Hall]*.

magnesium oxychloride cement. (Sorel cement). A mixture of magnesium chloride and magnesium oxide that reacts with water to form a solid mass, presumed to be magnesium oxychloride. Fillers such as wood flour, sawdust, sand, powdered stone, talc, etc., are usually present. A variety of proprietary mixtures are available. Strength ranges from 7000 to 10,000 psi. Copper powder minimizes water solubility.

magnesium palmitate. $Mg(C_{16}H_{31}O_2)_2$.
Properties: Crystalline needles or white lumps. Mp 121.5C; insoluble in water and alcohol. Combustible.
Use: Varnish drier, lubricant for plastics.

magnesium perborate. $Mg(BO_3)_2 \bullet 7H_2O$.
Properties: White powder. Sparingly soluble in water; decomposes with evolution of oxygen.
Derivation: Action of peroxide or electrolytic oxidation of borate solutions.
Hazard: Moderate fire risk in contact with organic materials.
Use: Driers, bleaching, antiseptic (tooth powders).

magnesium perchlorate.
CAS: 10034-81-8. (1) $Mg(ClO_4)_2$; (2) $Mg(ClO_4)_2 \bullet 6H_2O$.
Properties: White crystals. Deliquescent; very soluble in water and alcohol. (1) D 2.21 (18C), decomposes at 251C (2) d 1.98, decomposes at 185–190C.
Derivation: Reaction of magnesium hydroxide and perchloric acid.
Hazard: Dangerous fire and explosion risk in contact with organic materials.
Use: (1) As a regenerable drying agent for gases and (2) oxidizing agent.

magnesium permanganate.
$Mg(MnO_4)_2 \bullet 6H_2O$.
Properties: Bluish-black, friable, deliquescent crystals. D 2.18, mp (decomposes). Soluble in water.
Hazard: Fire hazard in contact with organic materials. Powerful oxidizer.
Use: Polymerization catalyst, antiseptic.

magnesium peroxide. (magnesium dioxide).
CAS: 14452-57-4. MgO_2.
Properties: White, powder; tasteless; odorless. Decomposes above 100C. Insoluble in water; soluble in dilute acids with formation of hydrogen peroxide. Available oxygen 28.4%. Keep cool and dry. A powerful oxidizing material.
Derivation: From sodium or barium peroxide with magnesium sulfate in a concentrated solution.
Grade: Technical, 15, 25, and 50%.
Hazard: Powerful oxidizer and dangerous fire risk, reacts with acidic materials and moisture.
Use: Bleaching and oxidizing agent, medicine (antacid).

magnesium phosphate. (magnesium orthophosphate).
See magnesium phosphate, dibasic; magnesium phosphate, monobasic; magnesium phosphate, tribasic.

magnesium phosphate, dibasic. (dimagnesium orthophosphate; dimagnesium phosphate; magnesium phosphate, secondary; magnesium hydrogen phosphate).
CAS: 7782-75-4. $MgHPO_4 \bullet 3H_2O$.
Properties: White, crystalline powder. D 2.13, loses water at 205C, decomposes at 550–650C, decomposes to pyrophosphate on heating. Soluble in dilute acids; slightly soluble in water. Nonflammable.
Derivation: Action of orthophosphoric acid on magnesium oxide.
Grade: Technical, FCC.
Use: Stabilizer for plastics, food additive, medicine (laxative).

magnesium phosphate, monobasic. (magnesium biphosphate; acid magnesium phosphate; magnesium tetrahydrogen phosphate).
$MgH_4(PO_4)_2 \bullet 2H_2O$.
Properties: White, hygroscopic, crystalline powder. Decomposes to metaphosphate on heating. Soluble in water and acids; insoluble in alcohol. Nonflammable.
Derivation: Action of orthophosphoric acid on magnesium hydroxide.
Use: Fireproofing wood, stabilizer for plastics.

magnesium phosphate, neutral. See magnesium phosphate, tribasic.

magnesium phosphate, secondary. See magnesium phosphate, dibasic.

magnesium phosphate, tribasic. (Magnesium phosphate, neutral; trimagnesium phosphate). $Mg_3(PO_4)_2 \bullet 8H_2O$ or $4H_2O$.
Properties: Soft, bulky, white powder; odorless; tasteless. Loses all water at 400C. Soluble in acids; insoluble in water. Nonflammable.
Derivation: Reaction of magnesium oxide and phosphoric acid at high temperatures.
Grade: Technical, reagent, NF (5 H_2O variety), FCC (4, 5, or 8 H_2O).
Use: Dentifrice polishing agent, pharmaceutical antacid, adsorbent, stabilizer for plastics, food additive and dietary supplement.

magnesium pyrophosphate. $Mg_2P_2O_7 \bullet 3H_2O$.

Hawley's

Condensed Chemical Dictionary

Fourteenth Edition

Revised by

Richard J. Lewis, Sr.

2001

JOHN WILEY & SONS, INC.

This book is printed on acid-free paper. ∞

Published simultaneously in Canada.

For ordering and customer service, call 1-800-CALL-WILEY.

Library of Congress Cataloging-in-Publication Data:

Condensed chemical dictionary.
Hawley's condensed chemical dictionary.—14th ed./ rev. by Richard J. Lewis, Sr. p. cm.
Includes index.
ISBN 0-471-38735-5 (cloth: acid-free paper)
1. Chemistry—Dictionaries. I. Title: Condensed chemical dictionary. II Hawley, Gessner Goodrich, 1905– III. Lewis, Richard J., Sr. IV. Title.

QD5 C5 2002
540".3--dc21 2001045614

Printed in the United States of America.

10 9 8 7 6 5 4 3 2

Table 8. Physical Properties of Magnesium Nitrates

Property	$Mg(NO_3)_2$	$Mg(NO_3)_2 \cdot 6H_2O$
mol wt	148.32	256.38
crystal system		monoclinic
space group		$P2_1/c$
mp, °C		89
heat of formation, ΔH_{298}, kJ/mol[a]	−790.7	−2613.3
free energy of formation, ΔG_{298}, kJ/mol[a]	−589.5	2080.7

[a]To convert J to cal, divide by 4.184.

MAGNESIUM NITRATE

Anhydrous magnesium nitrate, $Mg(NO_3)_2$, is very difficult to isolate. The commercial product is the deliquescent hexahydrate, $Mg(NO_3)_2 \cdot 6H_2O$. Properties are given in Table 8. Magnesium nitrate is prepared by dissolving magnesium oxide, hydroxide, or carbonate in nitric acid, followed by evaporation and crystallization at room temperature. Most magnesium nitrate is manufactured and used on site in other processes.

Handling and Safety

Magnesium nitrate should be stored in a cool, dry place, because it is hygroscopic. Magnesium nitrate is an acute skin, eye, and respiratory irritant that can be absorbed into the body via inhalation and ingestion. Ingestion of magnesium nitrate may lead to the formation of methemoglobin. The personal protection to be used when handling magnesium nitrate includes chemical safety goggles, chemical resistant gloves, and a NIOSH/MSHA approved respirator. Magnesium nitrate is a strong oxidizer and is incompatible with strong reducing agents and strong acids.

Uses

A soluble form of magnesium nitrate is used as a fertilizer in states such as Florida, where drainage through the porous, sandy soil depletes the magnesium. Magnesium nitrate is also used as a prilling aid in the manufacture of ammonium nitrate. Another use for magnesium nitrate is as an alternative to sulfuric acid in the purification of nitric acid.

MAGNESIUM OXIDE

The principal commercial forms of magnesia are dead-burned magnesia (periclase), caustic-calcined (light-burned magnesia), hard-burned magnesia, and calcined dolomite. These materials are usually formed by the thermal decomposition or chemical reaction of various magnesium compounds, including magnesite ore, magnesium hydroxide, magnesium chloride, and synthetic magnesium carbonate. Physical properties of periclase are given in Table 9.

Table 9. Physical Properties of Periclase

Property	Value
mol wt	40.304
crystal form	fcc
lattice constant, nm	0.42
density,[a] g/cm³	3.581
index of refraction	1.732
hardness, Mohs'	5.5–6.0
melting point, °C	2827 ± 30
thermal conductivity at 100°C, J/(s·cm·°C)[b]	0.360
electrical resistivity, Ω·cm	
at 27°C	1.3×10^{15}
727°C	2×10^7
1727°C	4×10^2
specific heat, kJ/(kg·K)[b]	
at 27°C	0.92885
227°C	1.1255
727°C	1.2719
1727°C	1.3389
2727°C	1.3598
heat of fusion at 2642°C kJ/mol[b]	77.4
heat of formation, ΔH_{298}, kJ/mol[b]	−601.7
free energy of formation, ΔG_{298}, kJ/mol[b]	−569.44
aqueous solubility, g/100 mL	
at 20°C	0.00062
30°C	0.0086

[a]Determined by X-ray.
[b]To convert J to cal, divide by 4.184.

Properties

The properties of magnesia produced by thermal decomposition are determined by the calcination time, temperature, the nature of the magnesium-containing precursor, and other chemical compounds in the process. Increasing calcination time and temperature increases the crystallite size of the magnesia, simultaneously decreasing the surface area and reactivity of the product. There are many processes for producing magnesium oxide.

Health and Safety Factors

Magnesium oxide is compatible with most chemicals; exceptions are strong acids, bromine pentafluoride, chlorine trifluoride, interhalogens, strong oxidizers, and phosphorous pentachloride.

Uses

The iron and steel industry is the largest consumer of magnesium in compounds in the United States and most other magnesia-consuming countries. Dead-burned magnesia from magnesite, seawater, or well and lake brines is used as a principal constituent in metallurgical furnace refractory products.

Caustic-calcined magnesia has uses in water treatment, as a neutralizing agent for some wastewater streams, and for removal of SO_2 from industrial flue gases. Magnesia is also used in agricultural applications, for animal feed and fertilizer, in a compound necessary for plant photosynthesis pasture fertilization for animal nutrition, cements, used primarily as flooring in

industrial and institutional buildings. Magnesia also is used as a stabilizer or vulcanizing agent in rubber. Fused and boron-free magnesia or periclase are used for insulation of heating elements in electric furnaces and appliances.

In the manufacturing industry, caustic-calcined magnesia is used in the production of rayon, fuel additives, and rubber. Caustic-calcined magnesia is used to produce magnesium acetate, for neutralization in producing rayon fiber. Caustic-calcined magnesia is a starting material for the production of magnesium overbased sulfonates, which are used as acid acceptors and sludge dispersants in crankcase lubricating oils and as a fuel additive. Magnesium oxide also may be injected into oil-fired utility boilers, where it reacts with vanadium salts to alleviate slagging and corrosion problems. In water-base oil-well drilling muds, magnesia is used as a buffer, for viscosity control, and as a corrosion inhibitor. Most of the end markets for caustic-calcined magnesia are mature, except the environmental market, where applications in water treatment are growing.

MAGNESIUM PEROXIDE

Industrial production of magnesium peroxide, MgO_2, involves the reaction of magnesium oxide and hydrogen peroxide. A product containing not more than 50% MgO_2 is obtained.

Uses

Magnesium peroxide is used mainly in medicine for treating hyperacidity in the gastric intestinal tract, and in the treatment of metabolic diseases such as diabetes and ketonuria. It is also used in the preparation of toothpaste and antiseptic ointments.

MAGNESIUM PHOSPHATE

An aqueous solution of monoammonium phosphate reacts with MgO to form ammonium magnesium phosphate hexahydrate, $NH_4MgPO_4 \cdot 6H_2O$. Properties are given in Table 10. Magnesium phosphate compounds are used as cementing agents for the refractory material used in high temperature dental investment castings.

Table 10. Physical Properties of Magnesium Phosphates

Property	Farringtonite	Dittmarite	Struvite
molecular formula	$Mg_3(PO_4)_2$	$NH_4MgPO_4 \cdot H_2O$	$NH_4MgPO_4 \cdot 6H_2O$
mol wt	262.85	155.33	245.40
crystal system	monoclinic	orthorhombic	orthorhombic
space group	$P2_1/n$	$Pmn2_1$	$Pm2_1n$
lattice constants, nm			
a	7.60	5.606	6.945
b	8.23	8.758	11.208
c	5.08	4.788	6.1355
Z^a	2	2	2
density, calculated, g/cm^3	2.76	2.19	1.706
hardness, Mohs'		2	2
color	white to yellow	colorless	colorless to white
melting point, C	1184		decrepitates
index of refraction	1.540, 1.544, 1.559	1.549, 1.569, 1.571	1.495, 1.496, 1.504

[a] Number of formulas per unit cell.

Table 11. Minerals Containing Magnesium Sulfate

Mineral name	Formula
kieserite	$MgSO_4 \cdot H_2O$
starkeyite	$MgSO_4 \cdot 4H_2O$
pentahydrite	$MgSO_4 \cdot 5H_2O$
hexahydrite	$MgSO_4 \cdot 6H_2O$
epsomite	$MgSO_4 \cdot 7H_2O$
vanthoffite	$3Na_2SO_4 \cdot MgSO_4$
bloedite	$Na_2SO_4 \cdot MgSO_4 \cdot 4H_2O$
langbeinite	$K_2SO_4 \cdot 2MgSO_4$
leonite	$K_2SO_4 \cdot MgSO_4 \cdot 4H_2O$
schoenite	$K_2SO_4 \cdot MgSO_4 \cdot 6H_2O$
kainite	$4KCl \cdot 4MgSO_4 \cdot 11H_2O$
polyhalite	$K_2SO_4 \cdot MgSO_4 \cdot 2CaSO_4 \cdot 2H_2O$

MAGNESIUM SULFATE

Magnesium sulfate, $MgSO_4$, is found widely in nature as either a double salt or as a hydrate. The more important mineral forms are listed in Table 11. The physical properties of anhydrous magnesium sulfate, kieserite, and epsomite, as well as of four less prominent hydrates, are listed in Table 12.

Manufacture and Processing

Anhydrous $MgSO_4$ can be prepared only by dehydration of a hydrate. Aqueous solutions of $MgSO_4$ can be prepared by dissolving MgO, $Mg(OH)_2$, or $MgCO_3$ in sulfuric acid or for absorbing SO_2 using a $Mg(OH)_2$ slurry to form the soluble bisulfite, $Mg(HSO_3)_2$, followed by air oxidation to SO_4^{-2}. Technical-grade epsom salt is prepared by dissolving MgO, $Mg(OH)_2$, or $MgCO_3$ in sulfuric acid. To prepare a USP-grade epsom salt, higher purity MgO or $Mg(OH)_2$ is used.

KIRK-OTHMER

CONCISE ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY

Fifth Edition

VOLUME 2

BICENTENNIAL 1807 WILEY 2007 BICENTENNIAL

WILEY-INTERSCIENCE
A JOHN WILEY & SONS, INC., PUBLICATION

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.
Published simultaneously in Canada.

Wiley Bicentennial Logo: Richard J. Pacifico

Library of Congress Cataloging-in-Publication Data:

Kirk-Othmer concise encyclopedia of chemical technology: 2 volume set. – 5th ed.
p. cm.
Includes index.
ISBN 978-0-470-04748-4 (cloth)
1. Chemistry, Technical–Encyclopedias.
TP9.K54 2007
660.03–dc22 2007008057

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

MAGNESIA. A fine, white powder of **magnesium oxide,** MgO, obtained by calcining magnesite or dolomite and refining chemically. It is used in pharmaceuticals, in cosmetics, in rubbers as a scorch-resistant filler, in soaps, and in ceramics. It requires 6.5 tons (5.9 metric tons) of dolomite to yield 1 ton (0.9 metric tons) of pure magnesia powder. Particle size of the powder is 19.7 μin (0.5 μm). For chemical uses it is 99.7% minimum purity with no more than 0.06% iron oxide and 0.08 calcium oxide, and the magnesia for electronic parts has a maximum of 0.03% iron oxide and 0.0025 boron. This powder is converted from magnesium hydroxide. **Maglite,** of Whittaker, Clark & Daniels, Inc., used for rubbers, is produced from seawater. **Magox magnesia,** of Basic Chemicals, is 98% pure MgO extracted from seawater. It comes in particle sizes to 325 mesh in high- and low-activity grades for rubber, textile, and chemical uses. A very pure magnesia is also produced by reducing magnesium nitrate.

Magnesia ceramic parts, such as crucibles and refractory parts, are generally made from magnesia that is usually electrically fused and crushed from the large cubic crystals. The crystals have ductility and can be bent. The particle size and shape are easily controlled in the crushing to fit the needs of the molded article. Pressed and sintered parts have a melting point of about 5070°F (2765°C) and can be employed to 4172°F (2300°C) in oxidizing atmospheres or to 3092°F (1700°C) in reducing atmospheres. The material is inert to molten steels and to basic slags. **Magnafrax 0340,** of Carborundum Co., is magnesia in the form of plates, tubes, bars, and disks. The material has a specific gravity of 3.3 and a thermal conductivity twice that of alumina. Its vitreous structure gives it about the same characteristics as a single crystal for electronic purposes. **Magnorite,** of Norton Co., is fused magnesia in granular crystals with a melting point of 5072°F (2800°C), used for making ceramic parts and for sheathing electric heating elements. **K-Grain magnesia,** of Kaiser Aluminum and Chemical Corp., is 98% magnesia, containing no more than 0.4 silica. The magnesia ceramic, of Corning Inc., is 99.8% pure. The cast, pressed, or extruded parts when high-fired have a fine-grained, dense structure with practically no shrinkage and a flexural strength of 15,500 lb/in^2 (107 MPa).

MAGNESITE. A white to bluish-gray mineral used in the manufacture of bricks for basic refractory furnace linings and as an ore of magnesium. The ground, burned magnesite is a light powder, shaped into bricks at high pressure and baked in kilns. Magnesite is a magnesium carbonate, $MgCo_3$, with some iron carbonate and ferric oxide. Magnesite releases carbon dioxide on heating and forms magnesia, MgO. When heated further, it forms a crystalline structure known as

periclase, which has a melting point of 5070°F (3076°C) and specific gravity of 3.58. The mineral periclase occurs in nature but is rare. A crystalline form is called **breunnerite.** The fused magnesia made in the arc furnace is actually synthetic periclase. The synthetic material is in transparent crystals up to 2 in (5 cm), which are crushed to powder for thermal insulation and for making refractory parts. Magnesite in compact, earthy form or granular masses has a vitreous luster, and the color may be white, gray, yellow, or brown. Mohs hardness is 3.5 to 4.5, and the specific gravity is about 3.1. The U.S. production of crude magnesite is in Nevada, Washington, and California.

The product known as **dead-burned magnesite** is in the form of dense particles used for refractories. It is produced by calcining magnesite at 2642 to 2732°F (1450 to 1500°C). **Caustic magnesite** is a product resulting from calcination at 1292 to 2192°F (700 to 1200°C), which leaves from 2 to 7% carbon dioxide in the material and gives sufficient cementing properties for use as a refractory cement. Beluchistan magnesite has 95 to 98% $MgCO_3$, with 0.5 to 1 iron oxide. Manchurian dead-burned magnesite has 90.9% magnesia with 4 silica, and some iron oxide and alumina.

Magnesite for use in producing magnesium metal should have at least 40% MgO, with not over 4.5 CaO and 2 FeO. **Brucite,** a natural hydrated magnesium oxide found in Ontario, contains a higher percentage of magnesia than ordinary magnesite and is used for furnace linings. Austrian magnesite has from 4 to 9% iron oxide, which gives it the property of fritting together more readily. Magnesite is a valued refractory material for crucibles, furnace brick and linings, and high-temperature electrical insulation because of its basic character, chemical resistance, high softening point, and high electrical resistance. Its chief disadvantage is its low resistance to heat shock. Magnesite brick and refractory products are marketed under a variety of trade names, such as **Ritex,** of General Refractories Co., and **Ramix.** It is also used as a covering for hot piping. The German artificial stone called **Kunststein** is magnesite.

MAGNESIUM. A silvery-white metal, symbol Mg, which is the lightest metal that is stable under ordinary conditions and produced in quantity. One of its chief uses is as an alloying element in aluminum, zinc, lead, and other nonferrous alloys. It is also used for cathodic protection of other metals from corrosion. It is the sixth most abundant element, and it was originally called **magnium** by Sir Humphry Davy. Specific gravity is 1.74, melting point 1202°F (650°C), boiling point about 2030°F (1110°C), and electrical conductivity about 40% that of copper. Ultimate tensile strengths are about 13,000 lb/in² (90 MPa) as cast, at least 23,000 lb/in² (159 MPa) for

Materials Handbook

An Encyclopedia for Managers, Technical Professionals, Purchasing and Production Managers, Technicians, and Supervisors

George S. Brady
(Deceased)

Henry R. Clauser
Materials Consultant
Former Editor, Materials Engineering

John A. Vaccari
Materials Consultant
Former Editor, Materials Engineering

Fourteenth Edition

McGraw-Hill

New York St. Louis San Francisco Auckland Bogotá
Caracas Hamburg Lisbon London Madrid Mexico Milan
Montreal New Delhi Paris San Juan São Paulo Singapore
Sydney Tokyo Toronto

McGraw-Hill
A Division of The McGraw-Hill Companies

3 4 5 6 7 8 9 0 DOC/DOC 9 0 1 0 9 8

ISBN 0-07-007084-9

The sponsoring editor for this book was Harold B. Crawford, the editing supervisor was Caroline Levine, and the production supervisor was Donald F. Schmidt. It was set in New Century Schoolbook by Terry Leaden of McGraw-Hill's Professional Book Group composition unit.

Printed and bound by R. R. Donnelley & Sons Company.

macrorheology |MECH| A branch of rheology in which materials are treated as homogeneous or quasi-homogeneous, and processes are treated as isothermal. { ¦mak·rō·rē'äl·ə·jē }

macroscopic property *See* thermodynamic property. { ¦mak·rə¦skäp·ik 'präp·ərd·ē }

macroscopic stress |MET| Residual stress in a metal in a distance comparable to the gage length of strain measurement specimens and therefore detectable by x-ray or dissection techniques. Also known as macrostress. { ¦mak·rə¦skäp·ik 'stres }

macrostress *See* macroscopic stress. { 'mak·rō ˌstres }

macrostructure |MET| Structure of an etched metal visible to the naked eye or at magnifications up to 10 diameters. { ¦mak·rō'strək·chər }

MAD *See* multiwavelength anomalous dispersion. { ¦em¦ā'dē *or* mad }

madder |MATER| The root of the madder plant (*Rubia tinctorium*), pulverized and used as source of glucosides to produce alizarin by fermentation. Also known as gamene. { 'mad·ər }

madder lake |MATER| Bluish-red, transparent pigment produced from alizarin red; used to make stains and inks, and as a component of artists' oil colors. { 'mad·ər 'lāk }

Madelung constant |SOLID STATE| A dimensionless constant which determines the electrostatic energy of a three-dimensional periodic crystal lattice consisting of a large number of positive and negative point charges when the number and magnitude of the charges and the nearest-neighbor distance between them is specified. { 'mä·də̦lüŋ ˌkän·stənt }

magic acid |INORG CHEM| A superacid consisting of equal molar quantities of fluorosulfonic acid (HSO_3F) and antimony pentafluoride (SbF_5). { 'maj·ik ¦as·əd }

magnesia |INORG CHEM| Magnesium oxide that is processed for a particular purpose. { mag'nē·zhə }

magnesia brick |MATER| A type of refractory brick composed of magnesium oxide with about 15% of other oxides. Also known as magnesite brick. { mag'nē·zhə ¦brik }

magnesia cement *See* magnesium oxychloride cement. { mag'nē·zhə si'ment }

magnesia refractory |MATER| Heat- and corrosion-resistant material made of magnesium oxide; used in cement or brick form to line high-temperature process vessels or furnaces. { mag'nē·zhə ri¦frak·trē }

magnesite brick *See* magnesia brick. { 'mag·nə ˌsīt ¦brik }

magnesium |CHEM| A metallic element, symbol Mg, atomic number 12, atomic weight 24.305. |MET| A silvery-white, lightweight, malleable, ductile metal, used in metallurgical and chemical processes, photography, pyrotechny, and light alloys. { mag'nē·zē·əm }

magnesium arsenate |INORG CHEM| $Mg_3(AsO_4)_2 \cdot xH_2O$ A white, poisonous, water-insoluble powder used as an insecticide. { mag'nē·zē·əm 'ärs·ən‚āt }

magnesium borate |INORG CHEM| $3MgO \cdot B_2O_3$ Crystals that are white or colorless and transparent; soluble in alcohol and acids, slightly soluble in water; used as a fungicide, antiseptic, and preservative. { mag'nē·zē·əm 'bȯr‚āt }

magnesium boride *See* magnesium diboride. { mag'nē·zē·əm 'bȯr‚īd }

magnesium bromate |INORG CHEM| $Mg(BrO_3)_2 \cdot 6H_2O$ A white crystalline compound, insoluble in alcohol, soluble in water; a fire hazard; used as an analytical reagent. { mag'nē·zē·əm 'brō ‚māt }

magnesium bromide |INORG CHEM| $MgBr_2 \cdot 6H_2O$ Deliquescent, colorless, bitter-tasting crystals, melting at 172°C, soluble in water, slightly soluble in alcohol; used in medicine and in the synthesis of organic chemicals. { mag'nē·zē·əm 'brō‚mīd }

magnesium carbonate |INORG CHEM| $MgCO_3$ A water-insoluble, white powder, decomposing at about 350°C; used as a refractory material. { mag'nē·zē·əm 'kär·bə‚nāt }

magnesium chlorate |INORG CHEM| $Mg(ClO_3)_2 \cdot 6H_2O$ A white powder, bitter-tasting and hygroscopic, slightly soluble in alcohols, soluble in water; used in medicine. { mag'nē·zē·əm 'klȯr ‚āt }

magnesium chloride |INORG CHEM| $MgCl_2 \cdot 6H_2O$ Deliquescent white crystals; soluble in water and alcohol; used in disinfectants and fire extinguishers, and in ceramics, textiles, and paper manufacture. { mag'nē·zē·əm 'klȯr‚īd }

magnesium diboride |INORG CHEM| MgB_2 A crystalline intermetallic compound, produced as a black powder, that becomes superconducting at the unusually high temperature of 39 K (−389°F, −234°C); melts at 800°C. Also known as magnesium boride. { mag'nē·zē·əm dī'bȯr ‚īd }

magnesium dust |MET| Magnesium metal powder, flammable; used in photographic flash lights and pyrotechnics. { mag'nē·zē·əm 'dəst }

magnesium fluoride |INORG CHEM| MgF_2 White, fluorescent crystals; insoluble in water and alcohol, soluble in nitric acid; melts at 1263°C; used in ceramics and glass. Also known as magnesium flux. { mag'nē·zē·əm 'flu̇r‚īd }

magnesium fluosilicate |INORG CHEM| $MgSiF_6 \cdot 6H_2O$ Water-soluble, efflorescent white crystals, used in ceramics, in mothproofing and waterproofing, and as a concrete hardener. Also known as magnesium silicofluoride. { mag'nē·zē·əm 'flü·ə'sil·ə‚kāt }

magnesium flux *See* magnesium fluoride. { mag'nē·zē·əm 'fləks }

magnesium halide |INORG CHEM| A compound formed from the metal magnesium and any of the halide elements; an example is magnesium bromide. { mag'nē·zē·əm 'ha‚līd }

magnesium hydrate *See* magnesium hydroxide. { mag'nē·zē·əm 'hī‚drāt }

magnesium hydride |INORG CHEM| MgH_2 A hydride compound formed from the metal magnesium; it decomposes violently in water, and in a vacuum at about 280°C. { mag'nē·zē·əm 'hī‚drīd }

McGraw-Hill

Dictionary of Materials Science

McGraw-Hill

New York Chicago San Francisco Lisbon London Madrid
Mexico City Milan New Delhi San Juan Seoul Singapore
Sydney Toronto

The McGraw-Hill Companies

1 2 3 4 5 6 7 8 9 0 DOC/DOC 0 9 8 7 6 5 4 3

ISBN 0-07-142176-9

This book is printed on recycled, acid-free paper containing a minimum of 50% recycled, de-inked fiber.

This book was set in Helvetica Bold and Novarese Book by TechBooks, Fairfax, Virginia. It was printed and bound by RR Donnelley, The Lakeside Press.

Library of Congress Cataloging-in-Publication Data

McGraw-Hill dictionary of materials science.
p. cm.
ISBN 0-07-142176-9
1. Materials science—Dictionaries.

TA402.D57 2003
620.1'1'03—dc21 2003051203

On the cover: Simulation of methane dissociation on nickel surface. (Accelrys http://www.accelrys.com)

illustrated by the interaction between optically active dibinaphtho-22-crown-6 and optically active phenethylammonium chloride. The crown ether oxygen atoms converge to the center of a hole and the ammonium hydrogens diverge from nitrogen. Three complementary O—H—N hydrogen bonds stabilize the complex. In this particular case, different steric interactions between the optically active crown and the enantiomers of the complex permit resolution of the salt.

Other organic cations have also been complexed, either by insertion of the charged function in the crown's polar hole or by less distinct interactions observed in the solid state. *See* COORDINATION CHEMISTRY; COORDINATION COMPLEXES.

Applications. The striking ability of neutral macrocyclic polyethers to complex with alkali and alkaline-earth cations as well as a variety of other species has proved of considerable interest to the chemistry community. Crown ethers may complex the cation associated with an organic salt and cause separation of the ions. In the absence of cations to neutralize them, many anions show considerably enhanced reactivity. *See* ORGANIC REACTION MECHANISM.

One of the important modern developments in synthetic chemistry was the use of the phase-transfer technique. Nucleophiles such as cyanide are often insoluble in media that dissolve organic compounds with which they react. Thus 1-bromooctane may be heated in the presence of sodium cyanide for days with no product formation. When a crown ether is added, two things change. First, solubility is enhanced because the crown wraps about the cation, making it more lipophilic. This, in turn, makes the entire salt more lipophilic. Second, by solvating the cation, the association between cation and anion and the interactions with solvent are weakened, thus activating the anion for reaction. This approach has been used to assist the dissolution of potassium permanganate ($KMnO_4$) in benzene in which solvent permanganate is a powerful oxidizing agent. One striking example of solubilization is the displacement of chloride (Cl^-) by fluoride (F^-) in dimethyl 2-chloroethylene-1,1-dicarboxylate by using the KF complex of dicyclohexano-18-crown-6. In this reaction, a crown provides solubility for an otherwise insoluble or marginally soluble salt. Use of crowns to transfer a salt from the solid phase into an organic phase is often referred to as solid-liquid phase-transfer catalysis. *See* CATALYSIS; PHASE-TRANSFER CATALYSIS.

Since crown ethers and related species complex cations selectively, they can be used as sensors. Crowns have been incorporated into electrodes for this purpose, and crowns having various appended chromophores have been prepared. When a cation is bound within the macroring, a change in electron density is felt in the chromophore. The chromophores are often nitroaromatic residues and therefore highly colored. The color change that accompanies complexation can be easily detected and quantitated. *See* ION-SELECTIVE MEMBRANES AND ELECTRODES. [G.W.G.]

Magnesium A metallic chemical element, Mg, in group 2 of the periodic system, atomic number 12, atomic weight 24.312. Magnesium is silvery white and extremely light in weight. The specific gravity is 1.74, and the density is 1740 kg/m^3 (0.063 $lb/in.^3$ or 108.6 lb/ft^3). Because of this lightness combined with alloy strength suitable for many structural uses, magnesium has long been known as industry's lightest structural metal. *See* PERIODIC TABLE.

With a density only two-thirds that of aluminum, magnesium is used in countless applications where weight saving is an important consideration. The metal also has, however, many desirable chemical and metallurgical properties which account for its extensive use in a variety of nonstructural applications.

Magnesium is very abundant in nature, occurring in substantial amounts in many rock-forming minerals such as dolomite, magnesite, olivine, and serpentine. In addition,

Table 1. Physical properties of primary magnesium (99.9% pure)

Property	Value
Atomic number	12
Atomic weight	24.312
Atomic volume, cm^3/g-atom	14.0
Crystal structure	Close-packed hexagonal
Electron arrangement in free atoms	(2) (8) 2
Mass numbers of the isotopes	24, 25, 26
Percent relative abundances of ^{24}Mg, ^{25}Mg, ^{26}Mg	77, 11.5, 11.5
Density, g/cm^3 at 20°C	1.738
Specific heat, cal/g/°C at 20°C (1 cal = 4.2 joules)	0.245
Melting point, °C	650
Boiling point, °C	1110±10

magnesium is also found in sea water, subterranean brines, and salt beds. It is the third most abundant structural metal in the Earth's crust, exceeded only by aluminum and iron.

Some of the properties of magnesium in metallic form are listed in Table 1. Magnesium is very active chemically. It will actually displace hydrogen from boiling water, and a large number of metals can be prepared by thermal reduction of their salts and oxides with magnesium. The metal will combine with most nonmetals and with practically all acids. Magnesium reacts only slightly or not at all with most alkalies and many organic chemicals, including hydrocarbons, aldehydes, alcohols, phenols, amines, esters, and most oils. As a catalyst, magnesium is useful for promoting organic condensation, reduction, addition, and dehalogenation reactions. It has long been used for the synthesis of complex and special organic compounds by the well-known Grignard reaction. Principal alloying ingredients include aluminum, manganese, zirconium, zinc, rare-earth metals, and thorium.

Table 2. Principal magnesium compounds and uses

Compound	Uses
Magnesium carbonate	Refractories, production of other magnesium compounds, water treatment, fertilizers
Magnesium chloride	Cell feed for production of metallic magnesium, oxychloride cements, refrigerating brines, catalyst in organic chemistry, production of other magnesium compounds, flocculating agent, treatment of foliage to prevent fire and resist fire, magnesium melting and welding fluxes
Magnesium hydroxide	Chemical intermediate, alkali, medicinal
Magnesium oxide	Insulation, refractories, oxychloride and oxysulfate cements, fertilizers, rayon-textile processing, water treatment, papermaking, household cleaners, alkali, pharmaceuticals, rubber filler catalyst
Magnesium sulfate	Leather tanning, paper sizing, oxychloride and oxysulfate cements, rayon delustrant, textile dyeing and printing, medicinal, fertilizer ingredient, livestock-food additive, ceramics, explosives, match manufacture

Magnesium compounds are used extensively in industry and agriculture. Table 2 lists the major magnesium compounds and indicates some of their more significant applications. [W.H.Gr.; S.C.E.]

Magnetochemistry The branch of chemistry which studies the interrelationship between a magnetic held and atomic and molecular structures.

A substance in a magnetic field acquires an intensity of magnetization which may be either smaller or larger than that induced in a vacuum by the same field. In the first case, the substance is said to be diamagnetic. In the second case, the substance may be paramagnetic, ferromagnetic, or antiferromagnetic.

Diamagnetism, a universal property of matter, is usually of the order of magnitude 10^{-6} to 10^{-5}. Temperature-dependent paramagnetism, on the other hand, arises only when an atom, ion, or molecule possesses a permanent magnetic moment either in the ground state or in an excited state. A permanent magnetic moment is the result of the presence of one or more unpaired electrons. Paramagnetic susceptibilities are of the order of magnitude 10^{-4} to 10^{-3}.

A substance composed of atoms with permanent magnetic moments which are very near to one another (for example, iron metal) may display ferromagnetism. This phenomenon occurs when large numbers of the atoms with permanent magnetic moments interact so that their individual moments align in a parallel fashion, giving rise to a large resultant moment.

On the other hand, a similar substance (for example, manganese metal) may display antiferromagnetism. Here, the magnetic moments align in an antiparallel fashion, thus largely canceling the individual magnetic moments of the atoms. Parallel versus antiparallel alignment depends, among other factors, upon interatomic distances. *See* ATOMIC STRUCTURE AND SPECTRA; ELECTRON PARAMAGNETIC RESONANCE (EPR) SPECTROSCOPY; MOLECULAR STRUCTURE AND SPECTRA. [D.M.Gr.]

Maillard reaction A nonenzymatic chemical reaction involving condensation of an amino group and a reducing group, resulting in the formation of intermediates which ultimately polymerize to form brown pigments (melanoidins). The reaction was named for the French biochemist Louis-Camille Maillard. It is of extreme importance to food chemistry, especially because of its ramifications in terms of food quality. *See* AMINE; REACTIVE INTERMEDIATES.

There are three major stages of the reaction. The first comprises glycosylamine formation and rearrangement *N*-substituted-1-amino-l-deoxy-2-ketose (Amadori compound). The second phase involves loss of the amine to form carbonyl intermediates, which upon dehydration or fission form highly reactive carbonyl compounds through several pathways. The third phase occurring upon subsequent heating involves the interaction of the carbonyl flavor compounds with other constituents to form brown nitrogen-containing pigments (melanoidins). These are highly desirous compounds in certain foods browned by heating in the presence of oxygen.

The Maillard reaction is considered undesirable in some biological and food systems. The interaction of carbonyl and amine compounds might damage the nutritional quality of proteins by reducing the availability of lysine and other essential amino acids and by forming inhibitory or antinutritional compounds. The reaction is also associated with undesirable flavors and colors in some foods, particularly dehydrated foods. *See* AMINO ACIDS; CARBONYL. [M.E.B.]

Manganese A metallic element, Mn, atomic number 25, and atomic weight 54.9380 g/mole. Manganese is one of the transition elements of the first long period

McGRAW-HILL CONCISE ENCYCLOPEDIA OF CHEMISTRY

McGraw-Hill

New York Chicago San Francisco Lisbon London Madrid Mexico City
Milan New Delhi San Juan Seoul Singapore Sydney Toronto

The McGraw·Hill Companies

Library of Congress Cataloging in Publication Data

McGraw-Hill concise encyclopedia of chemistry.
p. cm.
Includes index
ISBN 0-07-143953-6
1. Chemistry—Encyclopedias. I. Title: Concise encyclopedia of chemistry.

QD4.M34 2004
540.3—dc22 2004049906

3 4 5 6 7 8 9 0 IBT/IBT 0 9 8

This book was printed on acid-free paper.

It was set in Helvetica Black and Souvenir by TechBooks, Fairfax, Virginia.

The book was printed and bound by IBT Global.

resorption borders. **diferenciação—**, (*Petrog.*) magmatic segregation.
Magna-carta (*f.*) Magna Charta.
magnanimidade (*f.*) magnanimity, generosity.
magnânimo -ma (*adj.*) magnanimous, noble; generous.
magnata, -te (*m.*) magnate; tycoon; distinguished person; also = MANDACHUVA.
magneferrite (*f.*, *Min.*) magnesioferrite.
magnésia (*f.*, *Chem.*) magnesia (magnesium oxide).—**branca**, (*Pharm.*) magnesia alba.—**usta**, (*Chem.*) magnesia usta; calcined magnesia.
magnesiano -na, magnésico -ca (*adj.*) magnesian.
magnésio (*m.*, *Chem.*) magnesium.
magnesioferrite (*f.*) = MAGNEFERRITE.
magnesita (*f.*, *Min.*) magnesite.
magnete (*m.*) magnetite, loadstone; an iron or steel magnet.
magnetelétrico -ca (*adj.*) magnetoelectric(al).
magnético -ca (*adj.*) magnetic; attractive.
magnetismo (*m.*) magnetism; attractiveness.
magnetita (*f.*) magnetite, loadstone.
magnetização (*f.*) magnetization.
magnetizador -dora (*adj.*) magnetizing; (*m.*) magnetizer.
magnetizar (*v.t.*) to magnetize; fig., to influence, control; to attract, captivate.
magnetizável (*adj.*) magnetizable.
magneto (*m.*, *Elec.*) magneto.
magnetofônio (*m.*, *Physics*) magnetophone.
magnetogerador (*m.*) magnetogenerator.
magnetógrafo (*m.*, *Physics*) magnetograph.
magnetograma (*m.*, *Physics*) magnetogram.
magnetóide (*adj.*) magnetoid.
magnetologia (*f.*) the study of magnetism.
magnetometria (*f.*, *Physics*) magnetometry.
magnetômetro (*m.*, *Physics*) magnetometer.
magnéton (*m.*, *Physics*) magneton.
magneto-óptica (*f.*) magnetooptics.
magnetopirite (*f.*, *Min.*) magnetic pyrrites, pyrrhotite.
magnetoplumbite (*f.*, *Min.*) magnetoplumbite.
magnetoquímica (*f.*) magnetochemistry.
magnetoscópio (*m.*, *Physics*) magnetoscope.
magnetostrição (*f.*, *Physics*) magnetostriction.
magnetron (*m.*) magnetron.
magnicaudado -da (*adj.*; *Zool.*) magnicaudate.
magnificação (*f.*) magnification; laudation, exaltation.
magnificar (*v.t.*) to magnify, extol, praise.
magnificatório -ria (*adj.*) tending to magnify.
magnificência (*f.*) magnificence, splendor, pomp.
magnificente (*adj.*) magnificent, grand, imposing; magnanimous.
magnífico -ca (*adj.*) magnificent; grand, splendid, excellent; fine, beautiful.
magniloqüência (*f.*) magniloquence.
magniloqüente (*adj.*) magniloquent.
magníloquo [quo = co] (*adj.*) eloquent.
magnitude (*f.*) magnitude, greatness; importance, consequence.
magno -na (*adj.*) great, important.
magnólia (*f.*, *Bot.*) any magnolia, esp. *M. coco* and *M. grandiflora* (the southern magnolia).—**iulã**, the ulan magnolia (*M. denudata*).—**branca** = PINHO-DO-BREJO.
magnoliáceo -cea (*adj.*; *Bot.*) magnoliaceous; (*f.,pl.*) the Magnoliaceae (magnolia family).
mago -ga (*adj.*) magical; charming; (*m.*) one of the Magi; one of the Three Wise Men from the East; a magician, wizard, sorcerer.
mágoa (*f.*) bruise, black-and-blue mark; fig., grief, sorrow, heartbreak; regret; envy, jealousy, spite.
magoado -da (*adj.*) hurt; aggrieved; heartsick; regretful.
magoar (*v.t.*) to bruise; to afflict, hurt, offend; to aggrieve; to wound the feelings of; (*v.r.*) to hurt oneself.
magoativo -va (*adj.*) afflictive; hurtful; vexing.
magonga (*f.*) var. of MANGONGA.
magorim (*m.*) the Arabian jasmine (*Jasminum sambac*).
magote (*m.*) a crowd of people; a heap of things.
magra (*f.*) see under MAGRO.
magrelo -la (*adj.*; *m.,f.*) = MAGRICELA.
magrém (*f.*) thinness [= MAGREZA].
magrete [grê] (*adj.*) somewhat thin.
magreza [ê] (*f.*) thinness, leanness.
magricela (*adj.*) thin, skinny; scrawny; lanky; (*m.,f.*) such a person.
magrinha (*f.*, *colloq.*) small-bore gun.
magriz -za (*adj.*) skinny; (*m.,f.*) skinny person.
magrizela (*m.,f.*) = MAGRICELA.
magro -gra (*adj.*) thin, lean; meagre.—**como um caniço**, slender as a beanpole; (*f.*, *colloq.*) tuberculosis; death.
magruço -ça (*adj.*) = MAGRICELA.
maguari [í] (*m.*) the American stork (*Euxenura moguari*), c.a. JABURU-MOLEQUE; the cocoi heron (*Ardea cocoi*), c.a. BAGUARI, SOCOÍ.
maguei (*f.*, *Bot.*) maguey (*Agave atrovirens*) which yields pulque.
maguiçapá (*m.*) = COATÁ-BRANCO.
maiá (*m.*) Mayathan (language of the Mayas).
maiaca (*f.*) a yellow-eye grass (*Xyris pallida*), c.a. BOTÃO-DE-OURO.
maiêutica (*f.*) maieutics (Socratic method).
mainça [a-ín] (*f.*) handful [= MÃO-CHEIA].
mainel [-néis] (*m.*) handrail [= CORRIMÃO].
mainumbi (*m.*) a hummingbird [= GUAINUMBI].
maio (*m.*) the month of May; (*pl.*, *Bot.*) the Tangiers iris (*I. tingitana*).—**s pequenos**, the Moraea iris (*I. sisyrinchium*).
maiô (*m.*) a woman's bathing suit; a pair of tights. [Fr. *maillot*].
maiólica (*f.*) majolica, faience.
maionese (*f.*) mayonnaise.
maior (*adj.*; *comparative of* GRANDE) larger, greater, bigger; of age, adult; (*m.,f.*) an adult.—**(do) que**, greater (bigger) than.—**de vinte-e-um anos**, over 21.—**de-todos**, (*colloq.*) the middle finger.—**divisor comum**, greatest common divisor.—**número**, majority. **a—parte**, the majority; the greater, or greatest, part; the most. **bem—**, quite a bit (a good deal) larger. **de—idade**, of age. **É o—!** (*slang*) He is the most! **força—**, superior or irresistible force; so-called act of God. [Fr. *force majeure*]. **modo—**, (*Music*) major mode. **premissa—**, (*Logic*) major premise.
maioral (*m.*) the head man; ranch foreman; big shot; also = MANDACHUVA.
maioranta (*f.*) = FANFÃ (a plant).
Maiorca (*f.*) Majorca.
maioria (*f.*) majority, greater number.
maioridade (*f.*) majority, full legal age. **atingir a—**, to come of age.
maioríssimo -ma (*adj.*) greatest of all.
maiormente (*adv.*) = MORMENTE.
maipoca (*f.*) replanting of a field of manioc.
maipuré (*m.*, *Zool.*) the black-headed caique (*Pionites melanocephala*), c.a. PERIQUITO-DE-CABEÇA-PRETA.
mais (*adv.*) more, moreover, besides; (*m.*) the rest; (*adj.*) more.—**a tempo**, sooner.—**adiante**, further on.—**as vozes do que as nozes**, more shadow than substance; stuff and nonsense.—**cedo ou—tarde**, sooner or later, eventually.—**de (que)**, more than.—**de uma vez**, more than once.—**dia, menos dia**, some day; sooner or later.—**e mais**, more and more.—**essa!** and now this!—**hoje, mais amanhã**, any day (now).—**logo**, later.—**nada**, nothing more, anything else.—**ou menos**, more or less, about.—**por aqui, mais por ali**, more or less.—**(de) que**, more than.—**que muito**, in the highest degree.—**que-perfeito**, (*Gram.*) pluperfect.—**que tudo**, more than all else.—**tarde**, later.—**um**, one more, another.—**um pouquinho**, a little bit more.—**uma vez**, once more. **a—**, too much, in excess; besides, additional. **a—e melhor**, more and better. **ainda—**, all the more, still better. **ao—**, at most; moreover. **as—das vezes**, almost always, more often than not. **até—não poder**, to the limit, to the utmost. **cada vez—**, more all the time. **de—a mais**, more and more; besides. **É o—que posso fazer**, It is the most I can do. **quanto ao—**, as for the rest. **gostar—**, to like better or best; to prefer. **Gostaria—de ficar aqui**, I'd rather stay here. **logo—**, a little later (on). **Não existe—**, It no longer exists. **não—**, no more, no longer, not again. **não—que**, not more than, only. **Não posso—!** I can't stand it any longer! **Não posso esperar muito—**, I cannot wait much longer. **Não quero—nada**, I want nothing more. **nunca—**, never more, never again. **o—**, the rest. **o—tardar**, at the latest. **os—dos homens**, most men. **outro tanto—**, as much again. **para—de**, upwards of. **por—que**, however much. **por—que custe**, whatever the price (cost). **pouco—ou menos**, almost, nearly, more or less. **Quanto—(ganhava), tanto—(gastava)**, The more (he earned), the more (he spent). **sem—nem menos**, without more ado; without warning; for no reason.
Maisena (*f.*) brand name of a corn starch.
maisquerer (*v.t.*) to like better, prefer.

[redacted]

A PORTUGUESE-ENGLISH DICTIONARY

JAMES L. TAYLOR
Lecturer in Hispanic American Studies
Stanford University

STANFORD UNIVERSITY PRESS
STANFORD, CALIFORNIA
1958

Stanford University Press
Stanford, California

Library of Congress Catalog Card Number: 58-6705

Printed in the United States of America

Canadian border into Arkansas, Ohio, and Georgia. However, the pest is uncommon in the southern parts of this range.

This maggot, one of the most serious insect pests of apple, either ruins the fruit entirely, or makes it unappetizing for consumption. Heavily infested fruit will be reduced to a brown, rotted mass, filled with yellowish, legless maggots. When the fruit is slightly infested, there is no external indication of maggots within. However, when the fruit ripens, burrows made by the maggots show as dark lines under the skin of the fruit. Larvae in prematurely dropped fruit can continue to live and become adult flies that will reinfest the fruit on the trees. Thus, it is important to remove and burn such fruit immediately after it has dropped. The adult flies appear in late June and early July, at which time they insert eggs under the skin of the fruit. Hibernation occurs in small puparia located just below the fruit surface. The sweet and subacid varieties of apple are the most frequently attacked varieties.

The *artichoke stem maggot* (*Straussia longipennis*) is a small, yellow-colored maggot which bores into the pith of the stems. The adults are yellow flies with two banded wings.

The *cabbage root maggot* (*Pegomya brassicae*) is a headless, legless, white maggot, about $\frac{1}{4}$ inch (6 millimeters) long, which destroys seed in the soil while also attacking the underground parts of plants which have germinated. For control, a suitable chemical insecticide, such as diazinon or chlordane, should be applied to the soil at the base of the plants when the leaves appear; the treatment should be repeated soon after transplanting or thinning. Such chemicals should not be applied to the edible parts once they are formed on the cabbage. This maggot also attacks radish.

The *onion maggot* (*Phorbia cepetorum*) is a legless, white, root-eating maggot which attains a length of about $\frac{1}{3}$ inch (8 millimeters). Distribution is in the northern United States. A dust spray containing malathion provides effective control, but this should not be applied within three days of harvesting.

The *orange maggot* (*Trypeta ludens*) is a dirty-white maggot that attains a length of about $\frac{1}{2}$ inch (12–13 millimeters). The maggot burrows into the pulp of the fruit and up to 20 maggots may be found in a single orange. The adult version is a light-yellow fly with brown markings and bands on the wings. The orange maggot is particularly serious in the Mexican citrus groves. Control is essentially by picking infested fruit and immediately destroying to prevent reinfestation.

The *mushroom maggot* (*Sciara sp.*) is a small maggot, white to yellow in color, with a black head. Treatment is mainly by prevention, keeping flies out of the mushroom growing area, fumigating regularly, and sterilizing the manure growing medium by heating to at least 150°F (66°C).

The *raspberry cane maggot* (*Phorbia rubivora*) is a small maggot, white, that burrows in new canes and girdles the shoot. During April and May, a fly deposits the eggs.

The *seed-corn maggot* (*Pegomya fusciceps*) attacks the germinating seeds and roots of many plants, notably bean and pea. This maggot is headless, legless, whitish in color. The best prevention is to use seed that have been commercially treated for seed-corn maggot control.

Other maggots that are quite destructive to food crops include the rice-stem maggot and the seed maggot.

MAGMA. The term for molten material. A natural, complex, liquid, high-temperature, silicate solution ancestral to all igneous rocks, both intrusive and effusive. The locus of a magma is within the lithosphere (crust) under great pressure and an impenetrable cover which helps the magma to retain its original gases and water vapor in solution. The origin of magma is not known but it is generally assumed that separate magma chambers may exist within the lithosphere.

MAGNESITE. The mineral magnesite is carbonate of magnesium, $MgCO_3$. It is a hexagonal mineral, but usually found massive. It has a rhombohedral cleavage; conchoidal fracture; brittle; hardness, 4–4.5; specific gravity is approximately 3.0 (average); luster, vitreous to dull; color, white, gray, yellow, or brown; transparent to opaque. Most magnesite is believed to have been derived from the action of carbonated waters upon rocks rich in magnesium. Magnesium-bearing waters, on the other hand, may have in some cases acted upon calcite or dolomite. Magnesite deposits are known in Greece, Austria, Norway, India, Australia, and the Republic of South Africa. In the United States, magnesite is found in California and Nevada, some of which deposits seem to be of original sedimentary character. Magnesite is in demand for the manufacture of refractories and various compounds of magnesium.

MAGNESIUM. [CAS: 7439-95-4]. Chemical element, symbol Mg, at. no. 12, at. wt. 24.305, periodic table group 2, mp 649°C, bp 1,090°C, critical temperature (calculated) 1,867°C, density 1.74 g/cm^3 (20°C), 1.64 g/cm^3 (solid at 650°C), 1.57 g/cm^3 (liquid at 650°C). Elemental magnesium has a close-packed hexagonal crystal structure, as do the common alloys of magnesium except those that contain lithium in excess of 11%.

Magnesium is a silver-white metal, malleable and ductile when heated; unattacked by dry oxygen, by H_2O or alkalis at room temperature; when heated to about 800°C reacts in air or steam and emits a brilliant white light of high actinic power; reactive with acids including carbonic at room temperature; reactive upon heating with nitrogen, phosphorus, arsenic, sulfur, in some cases with such vigor as to constitute a hazard.

Magnesium occurs extensively in the earth's crust, ranking 8th among the chemical elements in terrestrial abundance. An average composition of igneous rocks contains 2.09% magnesium. Of the elements present in seawater, magnesium ranks 5th with an estimated 6,125,000 tons of magnesium per cubic mile (1,323,000 metric tons per cubic kilometer) of seawater, its content exceeded only by hydrogen, oxygen, sodium, and chlorine. Magnesium is a constituent of over 150 minerals and also is found in bitterns and subterranean brines and salt beds. Only a few magnesium minerals are important commercially, notably dolomite [CAS: 17069-72-6], $CaO{\cdot}MgO{\cdot}2CO_2$, magnesite [CAS: 13717-00-5], brucite [CAS: 1317-43-7], carnallite [CAS: 1318-27-0], and olivine [CAS: 1317-71-1] as a source of magnesium. See also **Dolomite**. More than half of metallic magnesium produced is extracted from seawater. There are three naturally occurring isotopes, ^{24}Mg through ^{26}Mg; and three radioactive isotopes have been identified, ^{23}Mg, ^{27}Mg, and ^{28}Mg, all with comparatively short half-lives measured in seconds, minutes, or hours. The first known magnesium compound to be isolated was Epsom salt, $MgSO_4$, which Nehemiah Grew obtained in 1695 by evaporating the mineral waters at Epsom, England. In 1754, Joseph Black demonstrated that magnesia and lime were two different substances, but the exact identify of magnesia was not reported until 1808 by Sir Humphrey Davy who demonstrated that magnesia was an oxide of a heretofore unknown element. He first termed the element magnium. Metallic magnesium was first isolated by A. Bussy in 1828 when he fused magnesium chloride with potassium. Michael Faraday produced the first magnesium metal electrolytically in 1883. First ionization potential 7.64 eV; second, 14.97 eV. Oxidation potential $Mg \rightarrow Mg^{2+} + 2e^-$, 2.375 V; $Mg + 2OH^- \rightarrow Mg(OH)_2 + 2e^-$, 2.67 V. Other important physical properties of magnesium are given under **Chemical Elements**.

Production

There are two principal magnesium production processes: (1) electrolytic, and (2) metallothermic reduction. Electrolytic processes account for 80% of commercial production. In this process, seawater is pumped into large settling tanks where it is treated with lime. Roasted oyster shells sometimes are used if a convenient source is nearby. The lime precipitates the magnesium as the insoluble hydroxide. The hydroxide is filtered and then converted into a slurry with fresh H_2O. Subsequent treatment with HCl converts the $Mg(OH)_2$ into $MgCl_2$. The latter compound is dried and then electrolyzed in the fused state to produce molten magnesium and chlorine gas. The latter is recycled. The magnesium is cast into ingots. In the thermal or ferrosilicon process, used in some European countries, a mixture of magnesium oxide and powdered ferrosilicon (an iron-silicon alloy) is fed into a retort and heated under vacuum to about 1,200°C. The magnesium is freed in the form of vapor and condenses into crystals at the cool end of the retort. The crystals then are remelted and cast into pigs.

Uses of Magnesium

Magnesium finds principal uses as a primary metal to which other metals are added in various alloying amounts to enhance the properties of magnesium. Magnesium is the lightest of all structural metals and consequently the metal has enjoyed much attention over the years in connection with the transportation industry, notably for applications in the

aircraft, aerospace, and automotive industries. Vehicle designers constantly are aware of the additional power requirements for simply moving "dead weight" that wastes fuel and contributes to air pollution.

In addition to its use as a structural metal, magnesium is an important metallurgical chemical in the form of a deoxidizer and desulfurizer and as the constituent of numerous industrial and laboratory chemical compounds.

Magnesium Alloys. Even prior to the use of magnesium as a structural metal in the aerospace field, in 1921, Louis Chevrolet put a set of magnesium-alloy pistons in the Ford racing car that won the Indy 500 for him that year. The magnesium pistons gave racing and sports cars faster acceleration and deceleration. This application of magnesium was not intended so much as a dead-weight savings feature for the car, but rather more in terms of inertia (obviously also relative to weight). Although the magnesium pistons provided better acceleration/deceleration because of smaller inertia, the early designers encountered what is known as piston slap, which results when the piston material has a considerably higher coefficient of thermal expansion than the cylinder material does.

The use of magnesium castings for auto wheels was introduced a few years later and also serves the principal purpose of reducing inertia. With wheels, it is not just faster acceleration/deceleration that can be achieved, but also minimizing the amount of unsprung weight for a smoother and easier-to-control ride and minimizing the problem of gyroscopic action of the rapidly spinning wheels. Designers of racing cars switched from wire-spoke wheels to magnesium-alloy wheels in the early 1950s. The use of magnesium has increased not only in racing cars, but some passenger cars, both for the purpose of reducing inertia and weight. Today, magnesium is used for transmission and differential housings and a variety of other racing car parts. Serious attention continues to be given to major engine components, such as the cylinder block, head, and oil sump, all of which are candidates for reducing dead weight and increasing fuel economy.

The most extensive use of magnesium castings in automobiles commenced in 1936, with the introduction of the Volkswagen Beetle. Each Beetle used from 40 to 50 pounds (18 to 23 kg) of primary magnesium ingot plus scrap metal.

Magnesium has a density only $\frac{2}{3}$ that of aluminum, $\frac{1}{4}$ that of zinc, and about $\frac{1}{5}$ that of irons and steels. In addition to the obvious aerospace and automotive applications, other applications include hand trucks, containers, materials-handling equipment, portable electric and pneumatic tools (such as chain saws), hand tools, luggage, sporting goods, dockboards, and tooling jigs and fixtures. It has been found that lighter-weight equipment significantly reduces accidents and lost time due to injuries. On an arbitrary scale, where the power required to machine magnesium alloys is 1.0, the Figures for other metals are: aluminum alloys, 1.8; brass, 2.3; cast iron, 3.5; mild steel, 6.3; and nickel alloys, 10.0.

Some magnesium alloys are listed in Tables 1 and 2.

Magnesium in Other Metal Alloys. Magnesium is an important alloying ingredient in the production of other base metal alloys. When added during metallurgical processing, magnesium in small amounts has a marked effect on final properties of the metals:

Aluminum — Magnesium increases resistance to corrosion, facilitates heat treatment, and increases most mechanical properties. If magnesium-containing aluminum is remelted, the magnesium may be lost and should be replaced by adding pure magnesium to the casting ladle or pot.

Copper — Magnesium improves tensile strength and allows age hardening. Magnesium is used mainly as a deoxidizer, notably in copper-nickel-zinc alloys and in leaded brasses and bronzes. The magnesium is added during melting.

Lead — Magnesium increases hardness, strength, and resistance to creep. Magnesium also is used as a debismuthizer in refining primary lead.

Nickel — Magnesium, in combination with carbon, forms an age-hardenable alloy. The main use of magnesium is to deoxidize and

TABLE 1. REPRESENTATIVE MAGNESIUM ALLOYS

Alloy Designation	Elements Added	Tensile Strength 1,000 psi	Brinell Hardness	Melting Point °C	Forms Available	Features
AZ31B	3% Al 1% Zn	29	49	627	Sheet, plate, extrusions, forgings.	Moderate strength, good formability, general-purpose alloy. Dent resistant, weldable.
AZ91B	9% Al 0.6% Zn	33	67	596	Die casting alloy.	Good strength and castability. Popular for portable tools, business machines, vehicles.
AZ91C	8.7% Al 0.7% Zn	40	53	596	General-purpose sand and permanent-mold casting alloy.	Good castability, pressure tightness, and weldability. Moderate strength.
HK31A	3% Th 0.7% Zn 0.7% Zr	38	57	649	Sheet and plate for aerospace uses. (200–370 °C). Sand and permanent-mold castings.	Good short-time, elevated temperature characteristics. Weldable without stress relief. Low microporosity in cast form.
HM21A	0.6% Mn 2% Th	35	56	650	Sheet, plate, forgings for aerospace uses. (200–425 °C)	Very stable at elevated temperatures. Good creep strength and formability. Weldable without stress relief.
HM31A	1.2% Mn (min) 3% Th	44	63	605	Extrusions for aerospace uses. (200–425 °C)	Excellent elevated temperature properties. Weldable without stress relief.
QE22A	2% Pr 0.7% Zr 2.5% Ag	40	78	549	Castings for aerospace uses. (up to 260 °C)	Superior tensile strength plus excellent creep and fatigue strength.
ZK60A	5.7% Zn 0.5% Zr	47	—	635	Highly stressed parts of aerospace and military uses. Used as a forging alloy.	High strength, good toughness, good spot-weldability. Limited arc-weldability.

Note: 1 psi (pounds/square inch) = 0.0069 megapascal (MPa).

Designation of Magnesium Alloys (an ASTM system now accepted by the SAE). A four-part system is used:

1. Letters indicate the two principal alloying elements: A, Aluminum; E, Rare-Earth; H, Thorium; K, Zirconium; M, Manganese; Q, Silver, S, Silicon; T, Tin; Z, Zinc. Thus HK significes a thorium-zirconium magnesium alloy.
2. The approximate amounts (percent, wt) of the two principal alloying materials follow to the immediate right of the alloying element letters. Thus HK31 indicates approximately 3% thorium, and 1% zirconium.
3. The next two letter symbols to the right are used to distinguish two different alloys of the same chemical composition. Any letter may be used except I and O.
4. A fourth part of the designation (not indicated in this table) is separated by a dash from the foregoing parts and is used to indicate temper and other characteristics, such as F (as fabricated), 0 (annealed), H10 and H11 (slightly strain hardened), H23, H24, and H26 (strain hardened and partially annealed), T4 (solution heat treated), T5 (artificially aged only), T6 (solution heat treated and artificially aged), and T8 (solution heat treated, cold worked, and artificially aged). Thus, the complete designation may appear as: AZ91C-T6 for an aluminum-zinc-magnesium alloy containing 9% Al, 1% zinc, C indicating that this is the third alloy standardized with the same percentages of Al and Zn and T6 indicating that the alloy is solution treated and artificially aged.

TABLE 2. MAGNESIUM CASTING ALLOYS FOR AUTOMOTIVE APPLICATIONS

AM60B[2]	Die-casting alloy for uses needing toughness and ductility.		
	5.5–6.5% Al	0.25% Mn (min)	0.002% Ni (max)
	0.010% Cu max	0.22% Zn (max)	0.10% Si (max)
		0.005% Fe (max)	
AZ91D[2]	Provides an optimum combination of properties with die castability.		
	8.3–9.7% Al	0.15% Mn (min)	0.02% Ni (max)
	0.030% Cu (max)	0.35–1.0% Zn	0.10% Si (max)
		0.005% Fe (max)	
AZ91E[2]	A sand and permanent-mold casting alloy with properties and castability similar to AZ91B.		
	8.1–9.3% Al	0.17–0.5% Mn	0.0010% Ni (max)
	0.015% Cu (max)	0.40–1.0% Zn	0.20% Si (max)
		0.005% Fe (max)	
ZE41A	A sand and permanent mold casting alloy for applications to 175 °C (350 °F). Low microporosity and good pressure tightness.		
	0.0% Al	0.15% Mn (max)	0.40–1.0% Zr
	0.010% Cu (max)	0.75–1.75% Re	0.01% Ni (max)
		3.5–5.0% Zn	
ZC63	A proprietary sand and permanent-mold casting with properties similar to ZE41A, but less expensive.		
	0.0% Al	0.25–0.75% Mn	
	2.4–3.0% Cu	5.5–6.5% Zn	

desulfurize the melts, including pure nickel, nickel-chrome, and nickel-copper alloys.

Tin — Magnesium increases hardness and tensile strength. The effect of magnesium on tin can be dramatic. However, too much magnesium will reduce corrosion resistance and ductility.

Zinc — Magnesium improves dimensional stability and reduces the intergranular corrosion of zinc die castings. Magnesium refines the grain and increases hardness and creep strength of zinc sheet. Magnesium also is used in zinc-base bearing metals and in zinc alloy metalworking dies.

Magnesium alloy extrusions have become very popular for numerous items in recent years. Extrusion is particularly attractive as a parts making method — when extruded parts and sheet can be easily joined to form an assembly, where the desired shapes are too costly to machine from castings, and where pieces cut from extrusions can replace individually cast or forged parts. Final products with outstanding performance qualities coupled with light weight include concrete hand finishing tools, tennis racquets, portable shelters for the military, snowshoes, and improved luggage, among others.

The use of magnesium composites has become popular for rotary engine parts. Rotary engines remain attractive for business aircraft, boats, industrial equipment and compressors, and well over a million rotary-engine-powered cars have been built. In a research program (NASA Lewis Research Center) rotary engine parts are made from graphite-fiber-reinforced magnesium. An AZ91 C magnesium alloy is reinforced by 30% (vol) graphite fibers.

Progress has been in the early 1990s toward the development of metal-matrix composites (MMCs) that blend liquid magnesium alloys with ceramic particles, such as silicon carbide (SiC) and alumina (Al_2O_3). The method is similar to methods that have been developed for aluminum composites in that blending is accomplished by way of a high-shear process. Major differences of the new process result from increased general reactivity of magnesium and the difference in surface chemistry between the Al-SiC and Mg-SiC systems.

The particulate-reinforced MMCs are lightweight and demonstrate a significant increase in modulus and tensile strength at both ambient and elevated temperatures of the unreinforced material. The process was announced in late 1992 by Magnesium Elektron Ltd., Manchester, U.K.

Chemistry and Compounds

The behavior of magnesium is intermediate between that of beryllium and the higher alkaline earths. While it reacts readily with halogens, oxygen, and sulfur to form halides, oxide, and sulfide, it reacts with cold water only when the formation of protective oxide is prevented by amalgamation. All its compounds are divalent. Its oxide does not react with water to form the hydroxide, and it does not normally form a peroxide. Its major difference from the higher elements of the group is its much greater number of complexes. Anhydrous magnesium halides, especially, combine easily with many oxygen-functional organic compounds to form addition compounds. These reactions usually suggest covalent or dative bonding (both electrons from the oxygen) of the magnesium. Magnesium salts often form amines and amine complexes, though these are less stable than beryllium complexes. Magnesium also forms some basic salts, and many more of its salts are hydrated than are those of the higher alkaline earths. The metal reacts with alkyl and aryl halides to form the Grignard reagents, through which many organic reactions are conducted. The Grignard reagents themselves form complexes with ethers, tertiary amines, tertiary phosphines and many other type compounds. See also **Grignard Reactions**.

Important compounds of magnesium include the following:

Magnesium Acetate. [CAS: 142-72-3]. Anhydrous magnesium acetate, a white, crystalline, deliquescent solid, occurs in two forms: α-$Mg(C_2H_3O_2)_2$, formed by the reaction of MgO and concentrated acetic acid (13–33%) in boiling ethyl acetate, and β-$Mg(C_2H_3O_2)_2$ which is formed using 5–6% acetic acid. Of commercial interest is magnesium acetate tetrahydrate [CAS: 16674-78-5], $Mg(C_2H_3O_2)_2{\cdot}4H_2O$, a colorless to white crystalline solid obtained from aqueous solution. The tetrahydrate is the only stable phase below 68 °C, the transition point of the anhydrous salt. A monohydrate [CAS:60582-92-5], $Mg(C_2H_3O_2)_2{\cdot}H_2O$, can be prepared from the reaction of MgO and acetic acid in slightly hydrated isobutyl alcohol.

Magnesium acetate is hygroscopic and should be stored in a cool, dry place. Personal protective equipment to be used when handling magnesium acetate includes chemical safety goggles, chemical resistant gloves, and a NIOSH/MSHA approved respirator. To keep exposure to respirable dust to a minimum, mechanical exhaust is required. Although magnesium acetate is a relatively low hazard chemical, intravenous poisoning can occur if this material is not handled properly. Magnesium acetate is incompatible with strong oxidizers. When heated to decomposition, acrid smoke and irritating fumes may evolve.

The largest use for magnesium acetate is in the production of rayon fiber, which is used for cigarette filter tow. Magnesium acetate also has uses as a dye fixative in textile printing, as a deodorant, disinfectant, an antiseptic in medicine, and as a reagent chemical.

Magnesium Acetylacetonate. [CAS: 14024-56-7], $Mg(C_5H_7O_2)_2$, crystalline powder, slightly soluble in water, resistant to hydrolysis, a chelating nonionizing compound.

Magnesium Alkyls. Magnesium alkyl compounds RMg, RMgR, or RMgR′, along with other compounds are useful as polymerization catalysts. These compounds should not be confused with alkyl magnesium halides or the much discussed ether solvated Grignard reagents. Magnesium alkyls may, however, be prepared from Grignard reagents. See also **Grignard Reactions**.

Magnesium alkyls are white, crystalline, pyrophoric solids that react vigorously with water, alcohols, and other compounds containing an active hydrogen. Magnesium alkyls, soluble in ether solutions but insoluble in benzene and some alkane solutions, decompose at 170–200 °C. The molecular weights of unsolvated compounds fall in the range of 100–200, but the molecular weights in solution, as determined by cryoscopic methods, are in the range of 1,000–10,000. The low solubility and high molecular weights in solution are attributed to extensive association resulting from the electron-deficiency of the magnesium.

Magnesium alkyls are used as polymerization catalysts for alpha-alkenes and dienes, such as the polymerization of ethylene, and in combination with aluminum alkyls and the transition-metal halides. Magnesium alkyls have been used in conjunction with other compounds in the polymerization of alkene oxides, alkene sulfides, acrylonitrile(qv), and polar vinyl monomers. Magnesium alkyls can be used as a liquid detergents. Also, magnesium alkyls have been used as fuel additives and for the suppression of soot in combustion of residual furnace oil.

Magnesium Amide. $Mg(NH_2)_2$, whitish to gray crystals, d1.40, decomposes when heated, formed by reaction of magnesium and ammonia under elevated pressure. Use: Catalyst for polymerization.

possible some of its uses, eg. stable permanent films to alter light transmission properties of optical and electronic materials. The reaction with sulfuric acid is so sluggish and incomplete that magnesium fluoride is not a suitable substitute for calcium fluoride in manufacturing hydrogen fluoride. Magnesium fluoride resists hydrolysis to hydrogen fluoride up to 750°C (61). Bimetallic fluorides, such as $KMgF_3$ [CAS: 28042-61-7], are formed on fusion of MgF_2 alkali metal and ammonium fluorides. MgF_2 is birefringent and only mildly affected by high energy radiation, making possible optics for the uv region.

Established uses of magnesium fluoride are as fluxes in magnesium metallurgy and in the ceramics industry. A proposed use is the extraction of aluminum from arc-furnace alloys with Fe, Si, Ti, and C. The molten alloy in reacting with magnesium fluoride volatilizes the aluminum and magnesium, which are later separated above the melting point of MgF_2. A welding flux for aluminum as well as fluxes for steel contains MgF_2.

Optical windows of highly purified magnesium fluoride which transmit light from the vacuum ultraviolet (140 nm) into the infrared are recommended for use as ultraviolet optical components for use in space exploration.

Magnesium Formate. $Mg(CHO_2)_2 \cdot 2H_2O$, colorless crystals, soluble in water; insoluble in alcohol and ether; combustible. Used in Analytical chemistry.

Magnesium Gluconate. $Mg(C_6H_{11}O_7)_2 \cdot 2H_2O$, white powder or fine needles, odorless, almost tasteless, soluble in water, combustible, formed by reaction of magnesia or magnesium carbonate dissolved in gluconic acid. Uses: Medicine, and vitamin tablets.

Magnesium Hydroxide. [CAS: 1309-42-8] $Mg(OH)_2$, occurs naturally as the mineral brucite [CAS: 1317-43-7]. Brucite, usually found as a low temperature, hydrothermal vein mineral associated with calcite, aragonite, talc, or magnesite, appears as a decomposition product of magnesium silicates associated with serpentine, dolomite, magnesite, and chromite. Brucite also occurs as a hydrated form of periclase, and is found in serpentine, marble, chlorite schists, and in crystalline limestone. At one time brucite was recovered commercially from deposits at Wakefield, Quebec and Nye County, Nevada; both operations have since ceased.

Magnesium hydroxide is produced from aqueous solutions of magnesium salts. To precipitate and recover magnesium hydroxide from solutions of magnesium salts, a strong base is added. The more commonly used base is calcium hydroxide [CAS: 1305-62-0], derived from lime [CAS: 1305-78-8], CaO, or dolime [CAS: 50933-69-2], CaO·MgO. Lime and dolime are calcination products of limestone and dolomite, respectively. See also **Lime and Limestone**.

The principal use of magnesium hydroxide is in the pulp and paper industries. The main captive use is in the production of magnesium oxide, chloride, and sulfate. Other uses include, ceramics, sugar refining, pharmaceuticals (antacid, laxative), plastics, flame retardants/smoke suppressants, residual fuel oil additive, sulfate pulp, uranium processing, dentrifrices, in foods as frying agent, color retention agent, frozen desserts, and the expanding environmental markets for wastewater treatment and SO_x removal from waste gases.

Magnesium Hypophosphite. $Mg(H_2PO_2)_2 \cdot 6H_2O$, white solid, soluble, formed by reaction of magnesium carbonate and hypophosphorous acid.

Magnesium Iodide. [CAS: 10377-58-9], can exist as two deliquescent and heat-sensitive compounds: the octahydrate [CAS: 7790-31-0], $MgI_2 \cdot 8H_2O$, and the hexahydrate [CAS: 75535-11-4], $MgI_2 \cdot 6H_2O$. Soluble in alcohols and many other organic solvents, and forms numerous addition compounds with alcohols, esters, aldehydes, esters, and amines. One example is magnesium iodide dietherate [CAS: 29964-67-8], $MgI_2 \cdot 2C_4H_{10}O$, prepared by gradual addition of iodine to a mixture of magnesium and dry ether. Magnesium iodide dietherate, which occurs as white, needle-like crystals, is very hygroscopic and becomes yellowish after several hours, and then brown after a day because of separation of iodine. The action of water upon magnesium iodide dietherate leads to the formation of the octahydrate salt, $MgI_2 \cdot 8H_2O$.

Magnesium iodide is used in the deoxygenation of oxiranes into olefins and iodine. Anhydrous MgI2 is used in a process for producing organometallic and organobimetallic compositions, which are important in the preparation of pharmaceutical and special chemicals.

Magnesium Methoxide. (magnesium methylate), [CAS: 27428-49-5] $(CH_3O)_2Mg$, colorless, crystalline solid, decomposes on warming, formed by reaction of magnesium and methanol. Uses: Dielectric coatings, a cross-linking agent to form stable gels, and catalyst.

Magnesium Lactate. $Mg(C_3H_5O_3)_2 \cdot 3H_2O$, white solid, soluble, formed by reaction of magnesium carbonate and lactic acid.

Magnesium Molybdate. [CAS: 13767-03-8] $MgMoO_4$, crystalline powder, soluble in water. Use: Electronic and optical applications.

Magnesium Nitrate. [CAS: 10377-60-3]. Anhydrous magnesium nitrate $Mg(NO_3)_2$, is very difficult to isolate, white crystals, D1.45, mp 95-100C, decomposes at 330C, soluble in water and alcohol, deliquescent. The commercial product is the deliquescent hexahydrate [CAS: 13446-18-9], $Mg(NO_3)_2 \cdot 6H_2O$.

Magnesium nitrate is prepared by dissolving magnesium oxide, hydroxide, or carbonate in nitric acid, followed by evaporation and crystallization at room temperature. Impurities such as calcium, iron, and aluminum are precipitated by pretreatment of the solution with slight excess of magnesium oxide, followed by filtration. Most magnesium nitrate is manufactured and used on site in other processes.

A soluble form of magnesium nitrate is used as a fertilizer in states such as Florida, where drainage through the porous, sandy soil depletes the magnesium. Used as a prilling aid in the manufacture of ammonium nitrate and in Pyrotechnics. Another use is as an alternative to sulfuric acid in the purification of nitric acid.

Magnesium Nitride. [CAS: 60195-15-5]. Mg_3N_2, yellow solid, with moist air or water yields ammonia and magnesium hydroxide, formed by heating magnesium to a high temperature in nitrogen or NH_3 (hydrogen gas evolved).

Magnesium Oleate. $Mg(C_{18}H_{33}O_2)_2$, yellowish mass, soluble in linseed oil, hydrocarbons, alcohol, and ether, insoluble in water, combustible, formed by reaction of soluble magnesium salt solution and sodium oleate. Uses: Varnish driers, in dry-cleaning solvents (to prevent spontaneous ignition), emulsifying agent, and lubricant for plasticizers.

Magnesium Oxalate. [CAS: 547-66-0]. $MgC_2O_4.2H_2O$, white solid, insoluble, K_{sp} 8.6×10^{-5}, formed by reaction of soluble magnesium salt solution and ammonium oxalate solution.

Magnesium Oxide. [CAS: 1309-48-4]. MgO, also known as magnesia, occurs in nature only infrequently as mineral periclase, most commonly as groups of crystals in marble. The principal commercial forms of magnesia are dead-burned magnesia (periclase), caustic-calcined (light-burned magnesia), hard-burned magnesia, and calcined dolomite. These materials are usually formed by the thermal decomposition or chemical reaction of various magnesium compounds including magnesite ore, magnesium hydroxide, magnesium chloride, and synthetic magnesium carbonate.

There are many processes for producing magnesium oxide. Martin Marietta Magnesia Specialties, Inc.,http://www.magspecialties.com/Default.htm, mines dolomitic limestone in Woodville, Ohio. The limestone is calcined at a high temperature under controlled conditions to produce calcined dolomite or dolime [CAS: 50933-69-2] which upon reaction with magnesium chloride-rich brine produces magnesium hydroxide and calcium chloride. The insoluble magnesium hydroxide is then separated from the liquid calcium chloride carrier and calcined under controlled conditions. The various grades of magnesia range from very reactive light-burned to nonreactive dead-burned.

Another process, in use globally, involves the mining, crushing, sizing, and subsequent calcination of natural magnesite. The chemical purity of the magnesia produced is dependent on the mineralogical composition of the natural magnesite. This magnesia is often less pure than magnesia produced by other processes.

The seawater process used by American Premier, National Magnesia Chemicals, and others, involves decarbonating limestone or dolomite to the point where all CO_2 is removed without converting the resulting magnesia to a chemically inactive form. Reaction of filtered seawater, treated to remove bicarbonate and/or sulfate, and dolime is followed by seeding with magnesium hydroxide to promote crystal growth. Upon formation of magnesium hydroxide, flocculants are added and the magnesium hydroxide precipitate is allowed to settle while the spent seawater is disposed to the sea. The precipitate is washed, filtered, and dried to obtain magnesium hydroxide, which is calcined to produce light-burned, hard-burned, or dead-burned magnesium oxide.

Dead Sea Periclase Ltd., on the Dead Sea in Israel, http://www.periclase.com/ uses yet another process to produce magnesium oxide. A concentrated magnesium chloride brine processed from the Dead Sea is sprayed into a reactor at about 1700°C. The brine is thermally decomposed into magnesium oxide and hydrochloric acid. To further process the magnesia, the product is slaked to form magnesium hydroxide which is then washed, filtered, and calcined under controlled conditions to produce a variety of MgO reactivity grades.

Uses: Refractories, especially for steel furnace linings, polycrystalline ceramic for aircraft windshields, electrical insulation, pharmaceuticals and cosmetics, inorganic rubber accelerator, oxychloride and oxysulfate cements, paper manufacture, fertilizers, removal of sulfur dioxide from stack gases, adsorption and catalysis, semiconductors, and food and feed additive.

Magnesium Peroxide. [CAS: 14452-57-4]. MgO_2, white solid, insoluble in water, soluble in dilute acids with formation of hydrogen peroxide, formed by reaction of soluble magnesium salt solution and sodium or barium peroxide.

Magnesium peroxide is used mainly in medicine for treating hyperacidity in the gastric intestinal tract, and in the treatment of metabolic diseases such as diabetes and ketonuria. It is also used in the preparation of toothpaste and antiseptic ointments. All of these uses involve a mixture of magnesium peroxide, magnesium oxide, magnesium hydroxide, and an admixture of magnesium carbonate. Magnesium peroxide is also used in bleaching and agricultural applications. See also **Bleaching Agents**.

Magnesium Ammonium Phosphate. $MgNH_4PO_4$, white precipitate, K_{sp} 2.5×10^{-12}, by reaction of soluble salt solution and sodium phosphate in the presence of excess ammonium hydroxide, upon igniting yields magnesium pyrophosphate, $Mg_2P_2O_7$, white solid.

Magnesium Phosphate, Dibasic. (dimagnesium orthophosphate; dimagnesium phosphate; magnesium phosphate, secondary; magnesium hydrogen phosphate), [CAS: 7782-75-4]. $MgHPO_4{\bullet}3H_2O$, white, crystalline powder, D 2.13, loses water at 205C, decomposes at 550-650C, decomposes to pyrophosphate on heating, soluble in dilute acids, slightly soluble in water. Uses: Stabilizer for plastics, food additive, and medicine (laxative).

Magnesium Phosphate, Monobasic. (magnesium biphosphate; acid magnesium phosphate; magnesium tetrahydrogen phosphate), $MgH_4(PO_4)_2{\bullet}2H_2O$, white, hygroscopic, crystalline powder, decomposes to metaphosphate on heating, soluble in water and acids, insoluble in alcohol. Uses: Fireproofing wood, and as a stabilizer for plastics.

Mangnesium Phosphate, Tribasic. (Mangnesium phosphate, neutral; trimagnesium phosphate), $Mg_3(PO_4)_2{\bullet}8H_2O$ or $4H_2O$, soft, bulky, white powder, odorless, tasteless, loses all water at 400 C, soluble in acids, insoluble in water, formed by reaction of magnesium oxide and phosphoric acid at high temperatures. Uses: Dentifrice polishing agent, pharmaceutical antacid, adsorbent, stabilizer for plastics, food additive and dietary supplement.

Magnesium Salicylate. $Mg(C_7H_5O_3)_2{\bullet}4H_2O$, white solid, soluble in water and alcohol, formed by action of salicylic acid on magnesium hydroxide. Use: Medicine (antiinfective).

Magnesium Silicide. [CAS: 39404-03-0]. Mg_2Si, bluish crystals, mp 1085 C, d 1.9, decomposes on heating above 500 C, also by water and hydrochloric acid, formed by heating magnesium powder with silicon in ratio of 20:6. Uses: Semiconductor technology, and electrical equipment.

Magnesium Stannate. $MgSnO_3{\bullet}3H_2O$, white crystalline powder, decomposes at 340C, soluble in water. Use: Additive in ceramic capacitors.

Magnesium Stannide. Mg_2Sn, blue-white crystals, Mp 775C, soluble in water and dilute hydrochloric acid, has electrical and magnetic properties. Use: Semiconductor technology, magnetochemistry, thermoelectric research.

Magnesium Stearate. [CAS: 557-04-0]. $Mg(C_{18}H_{35}O_2)_2$ or with one H_2O, soft, white, light powder, tasteless, odorless, insoluble in water and alcohol. Uses: Dusting powder, lubricant in making tablets, drier in paints and varnishes, flatting agent, in medicines, stabilizer and lubricant for plastics, emulsifying agent in cosmetics, and dietary supplement.

Magnesium Sulfate. [CAS: 7487-88-9]. $MgSO_4$, is found widely in nature as either a double salt or as a hydrate, colorless crystals, very soluble in water, soluble in glycerol, sparingly soluble in alcohol. The more important mineral forms are: kieserite [CAS: 14168-73-1] $MgSO_4{\cdot}H_2O$; starkeyite [CAS: 24378-31-2] $MgSO_4{\cdot}4H_2O$; pentahydrite [CAS: 15553-21-6] $MgSO_4{\cdot}5H_2O$; hexahydrite [CAS: 13778-97-7] $MgSO_4{\cdot}6H_2O$; epsomite [CAS: 10034-99-8] $MgSO_4{\cdot}7H_2O$; vanthoffite [CAS: 15557-33-2] $3Na_2SO_4{\cdot}MgSO_4$; bloedite [CAS: 15083-77-9] $Na_2SO_4{\cdot}MgSO_4{\cdot}4H_2O$; langbeinite [CAS: 13826-56-7] $K_2SO_4{\cdot}2MgSO_4$; leonite [CAS: 15226-80-9] $K_2SO_4{\cdot}MgSO_4{\cdot}4H_2O$; schoenite [CAS: 15491-86-8] $K_2SO_4{\cdot}MgSO_4{\cdot}6H_2O$; kainite [CAS: 67145-93-1] $4KCl{\cdot}4MgSO_4{\cdot}11H_2O$; polyhalite [CAS: 15278-29-2] $K_2SO_4{\cdot}MgSO_4{\cdot}2CaSO_4{\cdot}2H_2O$.

Magnesium sulfate forms many double salts, including naturally occurring minerals. The sulfuric acid double salts $MgSO_4{\cdot}H_2SO_4$ [CAS: 10028-26-9], $MgSO_4{\cdot}H_2SO_4{\cdot}3H_2O$ [CAS: 75198-53-7], and $MgSO_4{\cdot}3H_2SO_4$ [CAS: 39994-66-6] are crystallized from solutions of $MgSO_4$ in H_2SO_4. The amine double salts $MgSO_4{\cdot}NH_3{\cdot}3H_2O$ [CAS: 75198-54-8], $MgSO_4{\cdot}2NH_3{\cdot}4H_2O$ [CAS: 75198-56-0], and $MgSO_4{\cdot}2NH_3{\cdot}2H_2O$ [CAS: 75198-55-9] are products of $MgSO_4{\cdot}7H_2O$ and gaseous ammonia.

Manufacture and Processing. Anhydrous $MgSO_4$ can be prepared only by dehydration of a hydrate. Crystallization from aqueous solution is not possible. Aqueous solutions of $MgSO_4$ can be prepared by dissolving MgO, $Mg(OH)_2$, or MgCO3 in sulfuric acid; or absorbing SO_2 using a $Mg(OH)_2$ slurry to form the soluble bisulfite, $Mg(HSO_3)2$, followed by air oxidation to $SO^{-2}{}_4$.

Technical-grade epsom salt is prepared by dissolving MgO, $Mg(OH)_2$, or $MgCO_3$ in sulfuric acid. The reaction mixture is crystallized to separate the product. In one process $MgSO_4$ solution is recycled from crystallizers to a reaction vessel containing sulfuric acid and low reactivity MgO. After pH adjustment to slightly acidic conditions and a 4–5 h reaction time, a 34% $MgSO_4$ mother liquor at 82°C is produced. Iron is precipitated and insolubles are filtered from the mother liquor. Epsom salt is crystallized at 15°C and screened; the 24% $MgSO_4$ filtrate is recycled. The epsom salt crystals are dried at low temperature in a rotary oven. Following filtration, the 34% mother liquor can be diluted to 24% and sold as a solution. The theoretical yield is 1 t of epsom salt per ton MgO. The actual yield depends on particle size, reactivity, and purity of the MgO. The heat of reaction is often the determining factor for using MgO or $Mg(OH)_2$ as the reagent. The $Mg(OH)_2$ reaction generates only 65–75% of the heat that the MgO reaction does.

To prepare a USP-grade epsom salt, higher purity MgO or $Mg(OH)_2$ is used. USP and food grades require low chloride levels, limiting allowable chloride content of the MgO to 0.08 wt %. Trace impurities including iron and aluminum are precipitated using excess MgO. Following crystallization, the epsom salt is washed free of mother liquor.

Natural and synthetic magnesium sulfate have a wide array of uses. The largest use for magnesium sulfate in all forms is for consumer goods. About 30% of magnesium sulfate is used in food additives and pharmaceuticals. Magnesium sulfate heptahydrate, epsom salts, is used for mineral baths and in medicine as a cathartic and analgesic soaking agent for bruises, sprains, localized inflammations, and insect bites. Magnesium sulfate is used as a micronutrient in some food products, and it is used in the production of high fructose corn syrup (HFCS). In the early 1980s, replacement of most or all of the sugar by HFCS in soft drinks was expected to increase the market for HFCS dramatically, and as a consequence, boost magnesium sulfate consumption by as much as 5% per year. Although some sugar has been replaced, the high estimates of growth for magnesium sulfate in this application did not materialize.

Animal feeds and fertilizers represent about 22% of the U.S. market for magnesium sulfate. Most applications for magnesium sulfate use synthetically produced material because of its higher purity. Purity requirements for animal feeds and fertilizers are not as stringent, so they use mainly the natural minerals, which are imported into the United States. The most effective way of preventing grass tetany is to provide magnesium to the pasture through fertilization. Magnesium also may be supplied in the form of epsom salts or kieserite that is added to the feed or drinking water.

Pulp and paper processing accounts for about 14% of magnesium sulfate use in the United States. Magnesium sulfate is used by kraft pulp mills that use oxygen delignification on soft woods, but it is also used in conjunction with sodium silicate to increase the life of hydrogen peroxide in oxygen-based bleaching processes. Miscellaneous use, which represent about 9% of magnesium sulfate demand, include textiles, matches, photographic

solutions, rubber coagulation, refractory bonding agent in bricks, and oxysulfate cements.

Magnesium Sulfide. [CAS: 12032-36-9] MgS, red-brown, crystalline solid, decomposes above 2000C, decomposes in water. Use: Source of hydrogen sulfide, laboratory reagent.

Magnesium Sulfite. White, crystalline powder, D 1.725, mp loses $6H_20$ at 200C, bp (decomposes), slightly soluble in water, insoluble in alcohol.

The white hexahydrate [CAS: 13446-29-2], $MgSO_3{\bullet}6H_20$, is prepared by adding an excess of sulfur dioxide, SO_2, to a suspension of magnesium hydroxide, $Mg(OH)_2$, or basic magnesium carbonate, [CAS: 12306-51-3], $5MgO{\cdot}4CO_2{\cdot}5H_2O$. The formation of magnesium bisulfite (magnesium hydrogen sulfite), $MgHSO_3$, unisolable in solid form, in the presence of excess SO_2 increases the solubility of magnesium sulfite in the liquid phase. In dilute solutions of both magnesium sulfite and magnesium bisulfite, the solubility of magnesium sulfite increases with increasing temperature independent of $MgHSO_3$ concentration. The basic salt $11MgSO_3{\cdot}2Mg(OH)_2{\cdot}22H_2O$ forms as dilute solutions of magnesium sulfite are heated.

Use: Manufacture of paper pulp (as bisulfite). See also **Pulp (Wood) Production and Processing**.

Magnesium Sulfonates. Magnesium sulfonates are detergents containing magnesium carbonate or magnesium complexes as the metallic portion, and an oil-soluble magnesium-based substrate, dispersed as a colloid in petroleum oil. By definition a soap is commonly the sodium or potassium salt of a high molecular weight fatty acid. The term metallic soap refers to substitution of another metal for the sodium, in this case, magnesium. Classification of detergents reflects their alkalinity. Magnesium sulfonates may be either neutral or overbased.

Principal uses of magnesium sulfonates are as additives to engine oils, automatic transmission fluids, gear oils and industrial oils. See also **Hydraulic Fluid**. In engine lubricating oils, in concentrations of 1–2%, the primary function is as a sludge dispersant and neutralizer of acidic contaminants from partially oxidized fuels, oil degradation products, and NOx. The noncarbonated forms may be used also in corrosion-resistant coatings for metals, and as liquid fuel additives, in smoke suppression and in vanadium scavenging

Mangnesium Tungstate. [CAS: 13573-11-0], (magnesium wolframate) $MgWO_4$, white crystals, D 5.66, soluble in acids, insoluble in water and alcohol, formed by interaction of solutions of magnesium sulfate and ammonium tungstate. Use: Fluorescent screens for X-rays, luminescent paint.

Magnesium Zirconium Silicate. $MgZrSiO_5$, or $MgO{\bullet}ZrO_2{\bullet}SiO_2$, white solid, mp 1760 C, d 80 lb/ft^3, insoluble in water and alkalies, slightly soluble in acids. Use: Electrical resistor, ceramics, glaze opacifier.

Additional Reading

Avedesian, M.M. and H. Baker: *Magnesium and Magnesium Alloys*, ASM International, Materials Park, OH, 1999.

Davis, J.R.: *Metals Handbook*, 2nd Edition, ASM International, Materials Park, OH, 1998.

Greenwood, N.N. and A. Earnshaw: *Chemistry of the Elements*, 2nd Edition, Butterworth-Heiemann, Inc., Woburn, MA, 1997.

Kainer, K.U.: *Magnesium Alloys and Their Applications*, John Wiley & Sons, Inc., New York, NY, 2000.

Kainer, K.U.: *Magnesium Alloys and Technologies*, John Wiley & Sons, Inc., New York, NY, 2003.

Kainer, K.U.: *Magnesium: Proceedings of the 6th International Conference Magnesium Alloys and their Applications*, John Wiley & Sons, Inc., New York, NY, 2004.

Kaplan, H.I., J. Hryn, and B. Clow: *Magnesium Technology 2000: Proceedings of the Symposium Sponsored by the Light Metals Division of the Minerals, Metals and Materials Society (TMS) and the International Magnesium*, Warrendale, PA, 2000.

Krebs, R.E.: *The History and Use of Our Earth's Chemical Elements*, Greenwood Publishing Group, Inc., Westport, CT, 1998.

Lide, D.R.: *CRC Handbook of Chemistry and Physics*, 88th, Edition, CRC Press, LLC., Boca Raton, FL, 2007.

MAGNESIUM (In Biological Systems). Magnesium is an integral part of the molecule of chlorophyll, the green pigment in plants that absorbs solar energy. See also **Chlorophylls**. Magnesium deficiency is a fairly common cause of poor crop yields, especially among crops produced on sandy soils. Magnesium is a prosthetic ion in enzymes that hydrolyze and transfer phosphate groups. Hence it is essential for energy-requiring biological functions, such as membrane transport, generation and transmission of nerve impulses, contraction of muscles, and oxidative phosphorylation. See also **Phosphorylation (Oxidative)**. Magnesium is essential for the maintenance of ribosomal structure and thus protein synthesis. Magnesium may be related to the incidence of ischemic heart disease among Western populations.

The accumulation of magnesium from the soil by plants is strongly affected by the species of plant. The leguminous plants, such as clovers, beans, and peas, usually contain more magnesium than grasses, tomatoes, corn (maize), and other nonleguminous plants, regardless of the level of available magnesium in the soil where they grow.

A very high level of available potassium in the soil interferes with the uptake of magnesium by plants, and magnesium deficiency in plants is often found in soils that are very high in available potassium. High levels of available potassium may occur naturally, especially in soils of subhumid and semiarid regions; or they may be caused by heavy applications of certain commercial fertilizers or animal manure. On sandy and loamy soils, applications of magnesium fertilizers are often effective in increasing crop yields and the concentration of magnesium in the crop, but on fine-textured, clay-containing soils, especially those with substantial reserves of potassium, the application of a magnesium fertilizer may not cause higher magnesium concentration in crops. Since magnesium is not a highly toxic element in either plants or animals, precautions against its overuse are rarely necessary. When animals are fed diets primarily of grains, a proper balance among magnesium, calcium, and phosphorus should be maintained to minimize danger from urinary calculi.

The biological functions of magnesium, such as its essential role as a nutrier, its activation of enzyme systems, and its pharmacological properties, have been widely investigated. Nevertheless, some aspects of its critical physiological role remain obscure.

Distribution in System. Magnesium, primarily an intracellular ion, is distributed among all tissues. It constitutes about 0.05% of the animal body and, of this, 60% occurs in the skeleton and only 1% in extracellular fluids.

Reported serum magnesium values for most species range from 1.0 to 3.5 meg/liter, with a mean value of about 2. Between 65% and 80% of the plasma magnesium is ultrafilterable, and most of this exists as the free ion. The nonfilterable portion is reversibly bound to plasma protein. Cerebrospinal fluid contains slightly more than plasma. Interstitial fluid is similar to plasma ultrafiltrate.

The magnesium content of soft tissues varies from 0.06 to 0.13% of dry weight and remains remarkably constant regardless of the magnesium status of the animal. Normally, the intracellular concentration is more than 20 times that of the interstitial fluid, and the highest concentration occurs in the cell nucleus. Maintenance of such a large concentration gradient across the cell membrane suggests an active transport mechanism.

In late 1990's, R.R. Preston (University of Wisconsin–Madison) reported that recent reappraisals of the role of ionized magnesium in cell function suggests that many cells maintain intracellular free Mg^{2+} at low concentrations and that external agents can influence cell functions via changes in intracellular Mg^{2+} concentration. There is considerable evidence to suggest that intracellular free magnesium ions may be a key physiological regulator of cell activity.

The relatively large proportion of magnesium found in the skeleton, which amounts to about 0.6% of dry, fat-free bone, serves in part as a body reserve. It occurs largely as Mg^{2+} and $MgOH^+$ ions held by electrostatic attraction to the apatite crystal surface. During deficiency in young animals, 30% or more of bone magnesium can be mobilized for metabolic functions. Calcium ions appear to replace the magnesium that occupied the original adsorption sites.

Metabolism. The rate of absorption from the intestine exerts an important role in magnesium metabolism. Whereas in vitro studies show that magnesium absorption is positively correlated with the concentration of magnesium, it does not appear to be a purely passive process. Magnesium absorbed in excess of body needs is excreted primarily by way

VAN NOSTRAND'S

SCIENTIFIC ENCYCLOPEDIA

Tenth Edition

VOLUME 2

Glenn D. Considine
Editor-in-Chief

Peter H. Kulik
Associate Editor

WILEY-INTERSCIENCE
A John Wiley & Sons, Inc., Publication

Published by John Wiley & Sons, Inc., Hoboken, New Jersey
Published simultaneously in Canada

For general information on our other products and services or for technical support, please contact our Customer Care Department within the United States at (800) 762-2974, outside the United States at (317) 572-3993 or fax (317) 572-4002.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic formats. For more information about Wiley products, visit our web site at www.wiley.com.

Library of Congress Cataloging-in-Publication Data:

Van Nostrand's scientific encyclopedia. — 10th ed. / edited by Glenn D. Considine.
p. cm.
Includes index.
"Three volume set."
ISBN 978-0-471-74338-5 (cloth)
1. Science — Encyclopedias. 2. Engineering — Encyclopedias. I. Considene, Glenn D. II. Title: Scientific encyclopedia.
Q121.V3 2008
503–dc22

2007046658

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM - Request for Reconsideration Denied - No Appeal Filed
Sent:	3/27/2014 9:15:53 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)

IMPORTANT NOTICE REGARDING YOUR U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION (OFFICIAL LETTER) HAS ISSUED ON **3/27/2014** FOR U.S. APPLICATION SERIAL NO. 77873477

Please follow the instructions below:

(1) TO READ THE LETTER: Click on this link or go to http://tsdr.uspto.gov, enter the U.S. application serial number, and click on "Documents."

The Office action may not be immediately viewable, to allow for necessary system updates of the application, but will be available within 24 hours of this e-mail notification.

(2) TIMELY RESPONSE IS REQUIRED: Please carefully review the Office action to determine (1) how to respond, and (2) the applicable response time period. Your response deadline will be calculated from **3/27/2014** (*or sooner if specified in the Office action*). For information regarding response time periods, see http://www.uspto.gov/trademarks/process/status/responsetime.jsp.

Do NOT hit "Reply" to this e-mail notification, or otherwise e-mail your response because the USPTO does NOT accept e-mails as responses to Office actions. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System (TEAS) response form located at http://www.uspto.gov/trademarks/teas/response_forms.jsp.

(3) QUESTIONS: For questions about the contents of the Office action itself, please contact the assigned trademark examining attorney. For *technical* assistance in accessing or viewing the Office action in the Trademark Status and Document Retrieval (TSDR) system, please e-mail TSDR@uspto.gov.

WARNING

Failure to file the required response by the applicable response deadline will result in the ABANDONMENT of your application. For more information regarding abandonment, see http://www.uspto.gov/trademarks/basics/abandon.jsp**.**

PRIVATE COMPANY SOLICITATIONS REGARDING YOUR APPLICATION: Private companies **not** associated with the USPTO are using information provided in trademark applications to mail or e-mail trademark-related solicitations. These companies often use names that closely resemble the USPTO and their solicitations may look like an official government document. Many solicitations require that you pay "fees."

Please carefully review all correspondence you receive regarding this application to make sure that you are responding to an official document from the USPTO rather than a private company solicitation. All official USPTO correspondence will be mailed only from the "United States Patent and Trademark Office" in Alexandria, VA; or sent by e-mail from the domain "@uspto.gov." For more information on how to handle private company solicitations, see http://www.uspto.gov/trademarks/solicitation_warnings.jsp.

PTO Form 1960 (Rev 9/2007)
OMB No. 0651-0050 (Exp. 07/31/2017)

Request for Reconsideration after Final Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	77873477
LAW OFFICE ASSIGNED	LAW OFFICE 111
MARK SECTION	
MARK	http://tsdr.uspto.gov/img/77873477/large
LITERAL ELEMENT	MAGNESITA
STANDARD CHARACTERS	YES
USPTO-GENERATED IMAGE	YES
MARK STATEMENT	The mark consists of standard characters, without claim to any particular font style, size or color.
ARGUMENT(S)	
Please amend the application to the Supplemental Register as stated herein. This amendment is to expedite the application and is "not an admission that the mark has not acquired distinctiveness." 15 U.S.C. §1095. Applicant submits that present amendment to Supplemental Register is fully responsive to the final Office Action. After final refusal to register on the Principal Register, an amendment requesting registration on the Supplemental Registerâ€€"is procedurally an acceptable response." TMEP §816.04 (October, 2013). "An amendment to the Supplemental Register after refusal presents a new issue ...." *Id.* In the alternative, if the Trademark Office determines that the present Amendment is not fully responsive to the final Office Action, then this is a Notice of Appeal from the final Office Action, and payment of the relevant U.S. government fee is authorized to the Deposit Account No. 020200 of the undersigned. Applicant submits that the application should be approved for registration.	
ADDITIONAL STATEMENTS SECTION	
SUPPLEMENTAL REGISTER	The applicant seeks registration of the mark on the Supplemental Register (i.e., a change of the words 'Principal Register' to 'Supplemental Register').
SIGNATURE SECTION	
RESPONSE SIGNATURE	/Thomas J. Moore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
SIGNATORY'S PHONE NUMBER	703-683-0500
DATE SIGNED	03/29/2014
AUTHORIZED SIGNATORY	YES
CONCURRENT APPEAL NOTICE FILED	NO
FILING INFORMATION SECTION	
SUBMIT DATE	Sat Mar 29 15:23:58 EDT 2014
	USPTO/RFR-XXX.XX.XXX.XX-2 0140329152358335928-77873 477-5008fa65f1bd05e9f1fee

TEAS STAMP	2679e53f708ee5d3a57b9ce5e 2d082d2d3572a1ade7f5-N/A-N/A-20140329151916784155

PTO Form 1960 (Rev 9/2007)
OMB No. 0651-0050 (Exp. 07/31/2017)

Request for Reconsideration after Final Action

To the Commissioner for Trademarks:

Application serial no. **77873477** MAGNESITA(Standard Characters, see http://tsdr.uspto.gov/img/77873477/large) has been amended as follows:

ARGUMENT(S)
In response to the substantive refusal(s), please note the following:

Please amend the application to the Supplemental Register as stated herein. This amendment is to expedite the application and is "not an admission that the mark has not acquired distinctiveness." 15 U.S.C. §1095.

Applicant submits that present amendment to Supplemental Register is fully responsive to the final Office Action. After final refusal to register on the Principal Register, an amendment requesting registration on the Supplemental Registerâ€€"is procedurally an acceptable response." TMEP §816.04 (October, 2013). "An amendment to the Supplemental Register after refusal presents a new issue ...." *Id.* In the alternative, if the Trademark Office determines that the present Amendment is not fully responsive to the final Office Action, then this is a Notice of Appeal from the final Office Action, and payment of the relevant U.S. government fee is authorized to the Deposit Account No. 020200 of the undersigned.

Applicant submits that the application should be approved for registration.

ADDITIONAL STATEMENTS
Supplemental Register
The applicant seeks registration of the mark on the Supplemental Register (i.e., a change of the words 'Principal Register' to 'Supplemental Register').

SIGNATURE(S)
Request for Reconsideration Signature
Signature: /Thomas J. Moore/ Date: 03/29/2014
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member

Signatory's Phone Number: 703-683-0500

The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

The applicant is not filing a Notice of Appeal in conjunction with this Request for Reconsideration.

Serial Number: 77873477
Internet Transmission Date: Sat Mar 29 15:23:58 EDT 2014

TEAS Stamp: USPTO/RFR-XXX.XX.XXX.XX-2014032915235833
5928-77873477-5008fa65f1bd05e9f1fee2679e
53f708ee5d3a57b9ce5e2d082d2d3572a1ade7f5
-N/A-N/A-20140329151916784155

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	5/27/2014 11:20:24 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

U.S. APPLICATION SERIAL NO. 77873477

MARK: MAGNESITA

77873477

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

CLICK HERE TO RESPOND TO THIS LETTER:
http://www.uspto.gov/trademarks/teas/response_forms.jsp

APPLICANT: MAGNESITA REFRACTORIES COMPANY

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6002/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

OFFICE ACTION

STRICT DEADLINE TO RESPOND TO THIS LETTER

TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER **WITHIN 6 MONTHS** OF THE ISSUE/MAILING DATE BELOW.

ISSUE/MAILING DATE: 5/27/2014

This letter responds to the applicant's correspondence filed on March 29, 2014.

The applicant's response raises a new issue. The FINAL refusal is withdrawn to discuss the new issue raised by the response.

Supplemental Register Unacceptable-Generic-International Class 19

In response to the examining attorney's office action of March 27, 2014, the applicant amended the application to the Supplemental Register. The amendment to the Supplemental Register is acceptable for the services named in International Class 37; however, the applicant cannot amend the application to the Supplemental Register for the goods listed in International Class 19.

The applicant's proposed mark is MAGNESITA for "Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes."

The English translation of MAGNESITA is "magnesite" or "magnesia." The examining attorney has shown through evidence in prior office actions that magnestie or magnesia is the primary component in refractory products.

Registration is refused on the Supplemental Register because the applied-for mark is generic and thus incapable of distinguishing applicant's goods. Trademark Act Section 23(c), 15 U.S.C. §1091(c); *see* TMEP §§1209.01(c) *et seq.*

Generic terms are common names that the relevant purchasing public understands primarily as describing the genus of applicant's goods and/or services. *In re Dial-A-Mattress Operating Corp.*, 240 F.3d 1341, 1344, 57 USPQ2d 1807, 1810 (Fed. Cir. 2001); *H. Marvin Ginn Corp. v. Int'l Ass'n of Fire Chiefs, Inc.*, 782 F.2d 987, 989-90, 228 USPQ 528, 530 (Fed. Cir. 1986); *see* TMEP §1209.01(c). Generic terms are by definition

incapable of indicating a particular source of goods and/or services, and cannot be registered as trademarks and/or service marks. *In re Merrill Lynch, Pierce, Fenner, & Smith, Inc.*, 828 F.2d 1567, 1569, 4 USPQ2d 1141, 1142 (Fed. Cir. 1987); *see* TMEP §1209.01(c). Registering generic terms "would grant the owner of [a] mark a monopoly, since a competitor could not describe his goods as what they are." *In re Merrill Lynch, Pierce, Fenner, & Smith, Inc.*, 828 F.2d at 1569, 4 USPQ2d at 1142.

Determining whether a mark is generic requires a two-step inquiry:

(1) What is the genus of goods and/or services at issue?

(2) Does the relevant public understand the designation primarily to refer to that genus of goods and/or services?

In re 1800Mattress.com IP, LLC, 586 F.3d 1359, 1363, 92 USPQ2d 1682, 1684 (Fed. Cir. 2009) (quoting *H. Marvin Ginn Corp. v. Int'l Ass'n of Fire Chiefs, Inc.*, 782 F.2d 987, 989-90, 228 USPQ 528, 530 (Fed. Cir. 1986)); TMEP §1209.01(c)(i).

Regarding the first part of the inquiry, the genus of the goods and/or services is often defined by an applicant's identification of goods and/or services. *See In re Cordua Rests. LP*, 110 USPQ2d 1227, 1229 (TTAB 2014) (citing *Magic Wand Inc. v. RDB Inc.*, 940 F.2d 638, 640, 19 USPQ2d 1551, 1552 (Fed. Cir. 1991)).

In the present case, the identification, and thus the genus, is "refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes."

Regarding the second part of the inquiry, the attached evidence from a variety of sources shows that the wording "MAGNESITA" in the applied-for mark means magnesia or magnesite and thus this wording is essentially the apt or common name for the genus of the primary ingredient of the goods.

The name of a key ingredient, characteristic, or feature of goods and/or services may be generic for those goods and/or services. *See In re Northland Aluminum Prods. Inc.*, 777 F.2d 1556, 1559-60, 227 USPQ 961, 963-64 (Fed. Cir. 1985) (holding BUNDT generic for cake mix); *In re Cent. Sprinkler Co.*, 49 USPQ2d 1194, 1199 (TTAB 1998) (holding ATTIC generic for automatic sprinklers for fire protection used primarily in attics); *A.J. Canfield Co. v. Honickman*, 808 F.2d 291, 292, 1 USPQ2d 1364, 1365 (3d Cir. 1986) (holding CHOCOLATE FUDGE generic for diet sodas); TMEP §§1209.01(c) *et seq.* Thus, a term does not need to be the name of a specific product and/or service to be found generic.*See In re Eddie Z's Blinds & Drapery, Inc.*, 74 USPQ2d 1037, 1042 (TTAB 2005) (holding BLINDSANDDRAPERY.COM generic for online retail store services featuring blinds, draperies, and other wall coverings); *In re Candy Bouquet Int'l, Inc.*, 73 USPQ2d 1883, 1888 (TTAB 2004) (holding CANDY BOUQUET generic for "retail, mail, and computer order services in the field of gift packages of candy"); *In re Ricci-Italian Silversmiths, Inc.*, 16 USPQ2d 1727, 1729-30 (TTAB 1990) (holding ART DECO generic for flatware); *In re Hask Toiletries, Inc.*, 223 USPQ 1254, 1255 (TTAB 1984) (holding HENNA 'N' PLACENTA generic for hair conditioner).

For the above reasons, the mark is refused on the Supplemental Register.

Response Guidelines

For this application to proceed toward registration, applicant must explicitly address each refusal and/or requirement raised in this Office action. If the action includes a refusal, applicant may provide arguments and/or evidence as to why the refusal should be withdrawn and the mark should register. Applicant may also have other options for responding to a refusal and should consider such options carefully. To respond to requirements and certain refusal response options, applicant should set forth in writing the required changes or statements.

If applicant does not respond to this Office action within six months of the issue/mailing date, or responds by expressly abandoning the application, the application process will end, the trademark will fail to register, and the application fee will not be refunded. *See* 15 U.S.C. §1062(b); 37 C.F.R. §§2.65(a), 2.68(a), 2.209(a); TMEP §§405.04, 718.01, 718.02. Where the application has been abandoned for failure to respond to an Office action, applicant's only option would be to file a timely petition to revive the application, which, if granted, would allow the application to return to live status. *See* 37 C.F.R. §2.66; TMEP §1714. There is a $100 fee for such petitions. *See* 37 C.F.R. §§2.6, 2.66(b)(1).

To expedite prosecution of the application, applicant is encouraged to file its response to this Office action online via the Trademark Electronic Application System (TEAS), which is available at http://www.uspto.gov/teas/index.html. If applicant has technical questions about the TEAS response to Office action form, applicant can review the electronic filing tips available online at http://www.uspto.gov/teas/eFilingTips.htm and email technical questions to TEAS@uspto.gov.

If applicant has questions regarding this Office action, please telephone or e-mail the assigned trademark examining attorney. All relevant e-mail communications will be placed in the official application record; however, an e-mail communication will not be accepted as a response to this Office action and will not extend the deadline for filing a proper response. *See* 37 C.F.R. §2.191; TMEP §§304.01-.02, 709.04-.05. Further, although the trademark examining attorney may provide additional explanation pertaining to the refusal(s) and/or requirement(s) in this Office action, the trademark examining attorney may not provide legal advice or statements about applicant's rights. *See* TMEP §§705.02, 709.06.

/Dawn Feldman Lehker/
Trademark Examining Attorney
Law Office 111
U.S. Patent and Trademark Office
(571)272-9381
dawn.feldman-lehker@uspto.gov

TO RESPOND TO THIS LETTER: Go to http://www.uspto.gov/trademarks/teas/response_forms.jsp. Please wait 48-72 hours from the issue/mailing date before using the Trademark Electronic Application System (TEAS), to allow for necessary system updates of the application. For *technical* assistance with online forms, e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned trademark examining attorney. **E-mail communications will not be accepted as responses to Office actions; therefore, do not respond to this Office action by e-mail.**

All informal e-mail communications relevant to this application will be placed in the official application record.

WHO MUST SIGN THE RESPONSE: It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

PERIODICALLY CHECK THE STATUS OF THE APPLICATION: To ensure that applicant does not miss crucial deadlines or official notices, check the status of the application every three to four months using the Trademark Status and Document Retrieval (TSDR) system at http://tsdr.uspto.gov/. Please keep a copy of the TSDR status screen. If the status shows no change for more than six months, contact the Trademark Assistance Center by e-mail at TrademarkAssistanceCenter@uspto.gov or call 1-800-786-9199. For more information on checking status, see http://www.uspto.gov/trademarks/process/status/.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/trademarks/teas/correspondence.jsp.

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	5/27/2014 11:20:25 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)

IMPORTANT NOTICE REGARDING YOUR U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION (OFFICIAL LETTER) HAS ISSUED
ON **5/27/2014** FOR U.S. APPLICATION SERIAL NO. 77873477

Please follow the instructions below:

(1) TO READ THE LETTER: Click on this link or go to http://tsdr.uspto.gov, enter the U.S. application serial number, and click on "Documents."

The Office action may not be immediately viewable, to allow for necessary system updates of the application, but will be available within 24 hours of this e-mail notification.

(2) TIMELY RESPONSE IS REQUIRED: Please carefully review the Office action to determine (1) how to respond, and (2) the applicable response time period. Your response deadline will be calculated from **5/27/2014** (*or sooner if specified in the Office action*). For information regarding response time periods, see http://www.uspto.gov/trademarks/process/status/responsetime.jsp.

Do NOT hit "Reply" to this e-mail notification, or otherwise e-mail your response because the USPTO does NOT accept e-mails as responses to Office actions. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System (TEAS) response form located at http://www.uspto.gov/trademarks/teas/response_forms.jsp.

(3) QUESTIONS: For questions about the contents of the Office action itself, please contact the assigned trademark examining attorney. For *technical* assistance in accessing or viewing the Office action in the Trademark Status and Document Retrieval (TSDR) system, please e-mail TSDR@uspto.gov.

WARNING

Failure to file the required response by the applicable response deadline will result in the ABANDONMENT of your application. For more information regarding abandonment, see http://www.uspto.gov/trademarks/basics/abandon.jsp**.**

PRIVATE COMPANY SOLICITATIONS REGARDING YOUR APPLICATION: Private companies **not** associated with the USPTO are using information provided in trademark applications to mail or e-mail trademark-related solicitations. These companies often use names that closely resemble the USPTO and their solicitations may look like an official government document. Many solicitations require that you pay "fees."

Please carefully review all correspondence you receive regarding this application to make sure that you are responding to an official document from the USPTO rather than a private company solicitation. All official USPTO correspondence will be mailed only from the "United States Patent and Trademark Office" in Alexandria, VA; or sent by e-mail from the domain "@uspto.gov." For more information on how to handle private company solicitations, see http://www.uspto.gov/trademarks/solicitation_warnings.jsp.

PTO Form 1957 (Rev 9/2005)
OMB No. 0651-0050 (Exp. 07/31/2017)

Response to Office Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	77873477
LAW OFFICE ASSIGNED	LAW OFFICE 111
MARK SECTION	
MARK	http://tsdr.uspto.gov/img/77873477/large
LITERAL ELEMENT	MAGNESITA
STANDARD CHARACTERS	YES
USPTO-GENERATED IMAGE	YES
MARK STATEMENT	The mark consists of standard characters, without claim to any particular font style, size or color.
ARGUMENT(S)	
Applicant thanks the Examining Attorney for approval of Class 37 on the Supplemental Register. Applicant respectfully submits that the objection to Class 19 is erroneous and should be withdrawn. The mark is not generic. The correct inquiry is whether the relevant public would understand the term to be generic. *In re 1800Mattress.com IP LLC*, 586 F.3d 1359, 92 USPQ2d 1682, 1685 (Fed. Cir. 2009); TMEP 1209.01(c) (April 2014). In that case, the Federal Circuit stated that "the correct inquiry is whether the relevant public would understand, when hearing the term "mattress.com," that it refers to online mattress stores." *Id.* at 1364. In evaluating whether a term is generic, "it is irrelevant how a term is used outside the United States." *Anheuser-Busch Inc. v. Stroh Brewery Co.*, 750 F.2d 631, 642 (8^{th} Cir. 1984) The Office Action alleges that the present mark "Magnesita" should be evaluated based on the English translations (1) "magnesia" from Italian (see the exhibit filed on March 18, 2010) and/or (2) "magnesite" from Spanish and Portugese (see the exhibits filed on March 18, 2010). However, the present goods are not magnesia or magnesite, but "refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes." Some of these goods may comprise magnesite. Magnesite is "used chiefly in making refractories and magnesia" as stated in the definition filed herewith from the *Merriam-Webster Unabridged Dictionary* (online, 2014). Magnesite is in Class 1, not Class 19. The record does not meet the evidentiary burden on the Office to show that the relevant public would understand the term to be generic. "Substantial evidence ... requires such relevant evidence as a reasonable mind would accept as adequate to support a conclusion." *Shammas v. Rea*, ___F.Supp.___, 2013 WL 5672404 (E.D. Va). For example, the first attachment to the Office Action dated March 27, 2014, appears to be a definition from *Hawley's Condensed Chemical Dictionary* dated 2001. This definition is not current. The record does not show that chemists buy refractory products. Applicant submits that the application should be approved for registration.	
EVIDENCE SECTION	
EVIDENCE FILE NAME(S)	
ORIGINAL PDF FILE	evi_5024695157-112955842_._2014.06.04_definition_of_magnesite.pdf
CONVERTED PDF FILE(S) (1 page)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml18\ROA0002.JPG
SIGNATURE SECTION	
RESPONSE SIGNATURE	/Thomas J. Moore/

SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
SIGNATORY'S PHONE NUMBER	703-683-0500 x137
DATE SIGNED	06/04/2014
AUTHORIZED SIGNATORY	YES
FILING INFORMATION SECTION	
SUBMIT DATE	Wed Jun 04 11:49:46 EDT 2014
TEAS STAMP	USPTO/ROA-XX.XXX.XX.XXX-2 0140604114946865867-77873 477-500d0d998429dc90a2f19 10c354468a9ea49d98be47979 0be22476bdd5462236-N/A-N/ A-20140604112955842203

PTO Form 1957 (Rev 9/2005)
OMB No. 0651-0050 (Exp. 07/31/2017)

Response to Office Action

To the Commissioner for Trademarks:

Application serial no. **77873477** MAGNESITA(Standard Characters, see http://tsdr.uspto.gov/img/77873477/large) has been amended as follows:

ARGUMENT(S)
In response to the substantive refusal(s), please note the following:

Applicant thanks the Examining Attorney for approval of Class 37 on the Supplemental Register.

Applicant respectfully submits that the objection to Class 19 is erroneous and should be withdrawn. The mark is not generic.

The correct inquiry is whether the relevant public would understand the term to be generic. *In re 1800Mattress.com IP LLC*, 586 F.3d 1359, 92 USPQ2d 1682, 1685 (Fed. Cir. 2009); TMEP 1209.01(c) (April 2014). In that case, the Federal Circuit stated that "the correct inquiry is whether the relevant public would understand, when hearing the term "mattress.com," that it refers to online mattress stores." *Id.* at 1364. In evaluating whether a term is generic, "it is irrelevant how a term is used outside the United States." *Anheuser-Busch Inc. v. Stroh Brewery Co.*, 750 F.2d 631, 642 (8th Cir. 1984)

The Office Action alleges that the present mark "Magnesita" should be evaluated based on the English translations (1) "magnesia" from Italian (see the exhibit filed on March 18, 2010) and/or (2) "magnesite" from Spanish and Portugese (see the exhibits filed on March 18, 2010).

However, the present goods are not magnesia or magnesite, but "refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes." Some of these goods may comprise magnesite. Magnesite is "used chiefly in making refractories and magnesia" as stated in the definition filed herewith from the *Merriam-Webster Unabridged Dictionary* (online, 2014). Magnesite is in Class 1, not Class 19.

The record does not meet the evidentiary burden on the Office to show that the relevant public would understand the term to be generic. "Substantial evidence ... requires such relevant evidence as a reasonable mind would accept as adequate to support a conclusion." *Shammas v. Rea*, ___F.Supp.___, 2013 WL 5672404 (E.D. Va). For example, the first attachment to the Office Action dated March 27, 2014, appears to be a definition from *Hawley's Condensed Chemical Dictionary* dated 2001. This definition is not current. The record does not show that chemists buy refractory products.

Applicant submits that the application should be approved for registration.

EVIDENCE

Original PDF file:
evi_5024695157-112955842_._2014.06.04_definition_of_magnesite.pdf
Converted PDF file(s) (1 page)
Evidence-1

SIGNATURE(S)
Response Signature
Signature: /Thomas J. Moore/ Date: 06/04/2014
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member

Signatory's Phone Number: 703-683-0500 x137

The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

Serial Number: 77873477
Internet Transmission Date: Wed Jun 04 11:49:46 EDT 2014
TEAS Stamp: USPTO/ROA-XX.XXX.XX.XXX-2014060411494686
5867-77873477-500d0d998429dc90a2f1910c35
4468a9ea49d98be479790be22476bdd5462236-N
/A-N/A-20140604112955842203

Merriam-Webster Unabridged Dictionary

mag·ne·site *noun* \ˈmagnə ˌsīt\

plural **-s**

: a mineral $MgCO_3$ that consists of magnesium carbonate, that is isomorphous with siderite and calcite, and that is used chiefly in making refractories and magnesia

Origin of MAGNESITE

French *magnésite*, from New Latin *magnesium* + French *-ite*

First Known Use: 1815

Pronunciation Symbols

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	7/18/2014 11:17:05 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	Attachment - 1 Attachment - 2 Attachment - 3 Attachment - 4 Attachment - 5 Attachment - 6 Attachment - 7 Attachment - 8 Attachment - 9 Attachment - 10 Attachment - 11 Attachment - 12 Attachment - 13 Attachment - 14

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

U.S. APPLICATION SERIAL NO. 77873477

MARK: MAGNESITA

77873477

CORRESPONDENT ADDRESS:
THOMAS J. MOORE
BACON & THOMAS, PLLC
625 SLATERS LN FL 4
ALEXANDRIA, VA 22314-1169

CLICK HERE TO RESPOND TO THIS LETTER:
http://www.uspto.gov/trademarks/teas/response_forms.jsp

APPLICANT: MAGNESITA REFRACTORIES COMPANY

CORRESPONDENT'S REFERENCE/DOCKET NO :
MAGN6002/TJM
CORRESPONDENT E-MAIL ADDRESS:
mail@baconthomas.com

OFFICE ACTION

STRICT DEADLINE TO RESPOND TO THIS LETTER

TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER **WITHIN 6 MONTHS** OF THE ISSUE/MAILING DATE BELOW.

ISSUE/MAILING DATE: 7/18/2014

THIS IS A FINAL ACTION.

This letter responds to the applicant's correspondence filed on May 27, 2014.

Final Refusal-Supplemental Register Refused-Mark is Generic-International Class 19.
In the prior office action the examining attorney refused registration on the Supplemental Register because the proposed mark, as it applied to the applicant's goods in International Class 19 was considered generic.

The examining attorney reiterates that registration is refused on the Supplemental Register because the applied-for mark is generic and thus incapable of distinguishing applicant's goods. Trademark Act Section 23(c), 15 U.S.C. §1091(c); *see* TMEP §§1209.01(c) *et seq.*

The applicant's mark is MAGNESITA for "Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes."

As was added to the record, the English translation of MAGNESITE or MAGNESIA.

Also, as established in prior office actions, magnesite or magnesia is the primary component used in the manufacture of refractory products. The applicant does not dispute the fact that magnesite is a primary component in making refractory products. The examining attorney quotes the applicant below from the response dated June 4, 2014.

> However, the present goods are not magnesia or magnesite, but "refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes." Some of these goods may comprise magnesite. Magnesite is "used chiefly in making refractories and magnesia" as stated in the definition filed herewith from the *Merriam-Webster Unabridged Dictionary* (online, 2014). Magnesite is in Class 1, not Class 19.

Determining whether a mark is generic requires a two-step inquiry:

(1) What is the genus of goods and/or services at issue?

(2) Does the relevant public understand the designation primarily to refer to that genus of goods and/or services?

In re 1800Mattress.com IP, LLC, 586 F.3d 1359, 1363, 92 USPQ2d 1682, 1684 (Fed. Cir. 2009) (quoting *H. Marvin Ginn Corp. v. Int'l Ass'n of Fire Chiefs*, *Inc.*, 782 F.2d 987, 989-90, 228 USPQ 528, 530 (Fed. Cir. 1986)); TMEP §1209.01(c)(i).

Regarding the first part of the inquiry, the genus of the goods and/or services is often defined by an applicant's identification of goods and/or services. *See In re Cordua Rests. LP*, 110 USPQ2d 1227, 1229 (TTAB 2014) (citing *Magic Wand Inc. v. RDB Inc.*, 940 F.2d 638, 640, 19 USPQ2d 1551, 1552 (Fed. Cir. 1991)).

As was discussed in the prior office action, the genus of the goods is refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes."

Magnesite or magnesia is a primary component of the goods. The name of a key ingredient, characteristic, or feature of goods and/or services may be generic for those goods and/or services. *See In re Northland Aluminum Prods. Inc*., 777 F.2d 1556, 1559-60, 227 USPQ 961, 963-64 (Fed. Cir. 1985) (holding BUNDT generic for cake mix); *In re Cent. Sprinkler Co.*, 49 USPQ2d 1194, 1199 (TTAB 1998) (holding ATTIC generic for automatic sprinklers for fire protection used primarily in attics); *A.J. Canfield Co. v. Honickman*, 808 F.2d 291, 292, 1 USPQ2d 1364, 1365 (3d Cir. 1986) (holding CHOCOLATE FUDGE generic for diet sodas); TMEP §§1209.01(c) *et seq.* Thus, a term does not need to be the name of a specific product and/or service to be found generic.*See In re Eddie Z's Blinds & Drapery, Inc.* , 74 USPQ2d 1037, 1042 (TTAB 2005) (holding BLINDSANDDRAPERY.COM generic for online retail store services featuring blinds, draperies, and other wall coverings); *In re Candy Bouquet Int'l, Inc.* , 73 USPQ2d 1883, 1888 (TTAB 2004) (holding CANDY BOUQUET generic for "retail, mail, and computer order services in the field of gift packages of candy"); *In re Ricci-Italian Silversmiths, Inc.*, 16 USPQ2d 1727, 1729-30 (TTAB 1990) (holding ART DECO generic for flatware); *In re Hask Toiletries, Inc.*, 223 USPQ 1254, 1255 (TTAB 1984) (holding HENNA 'N' PLACENTA generic for hair conditioner).
With respect to the second part of the inquiry, the applicant argues that the relevant public would understand the term to be generic. The examining attorney submits that the relevant public in this instance is not the public at large but the group of people who work in the refractory products industry. The examining attorney agrees that the public at large would not necessarily understand that the term MAGNESITA translates to magnesia or magnesite, which is a primary component of refractory products. However, people who work in the refractory products industry, who are familiar with the applicant as a Brazilian company would understand that the term MAGNESITA means magnesite or magnesia. People who purchase refractory products would be familiar with the component parts of the goods as a measure of quality.

The examining attorney also directs the applicant's attention to the following language from a few relevant cases on genericness.

In an appeal from the Trademark Trial and Appeal Board, Magic Wand, Inc., petitioned the United States Patent and Trademark Office's Trademark Trial and Appeal Board (TTAB) to cancel the registration of the service mark TOUCHLESS for "automobile washing services." The

TTAB denied the petition. Magic Wand, Inc. v. RDB, Inc., Cancellation No. 16,878 (TTAB Aug. 7, 1990). Because Magic Wand did not show that TOUCHLESS was generic in the mind of the relevant public, this court affirms. *Magic Wand, Inc. v. RDB, Inc., 940 F.2d 638 (1991).*

The Federal Circuit stated the following about the "relevant public" in that case.

> In sum, the 1984 amendment makes the test for genericness the primary significance of the mark to the relevant public limited to actual or potential purchasers of the goods or services." Magic Wand, Inc. v. RDB, Inc., 940 F.2d 638, 641, 19 USPQ2d 1551, 1553 (Fed. Cir. 1991)

In the following case of *Capital Project Management, Inc. v. IMDISI, Inc., 70 USPQ2d 1172*, IMDISI filed an application to register TIA in connection with "investigation of problems experienced on construction projects using a technique which analyzes the effect of a particular event on schedulized activities." Capital project management opposed the application on the grounds that the term when used in connection with the applicant's services was generic or descriptive. In the discussion of genericness the Trademark Trial and Appeal Board Stated the following with respect to the "relevant public."

> In this case, the relevant public is highly sophisticated, and would include engineers, architects, lawyers, construction owners, contractors and other professionals in the construction management field who purchase schedule analysis services." Capital Project Management, Inc. v. IMDISI, Inc., 70 USPQ2d 1172, 1177-78 (TTAB 1998)

The examining attorney submits that the relevant public, in this case, are people who work in the refractory industry and purchase refractory products on a regular basis. As such, the people who purchase refractory products would know the primary components of the goods. If the people regularly deal with the applicant, then they would also know that the applicant is a Brazilian Company and that the term MAGNESITA is Portugese for magnesite or magnesia, a primary component of refractory products.

For the above reasons, the refusal of the mark on the Supplemental Register under Section 23 because the mark is generic is maintained and made FINAL.

Response Guidelines

Applicant must respond within six months of the date of issuance of this final Office action or the application will be abandoned. 15 U.S.C. §1062(b); 37 C.F.R. §2.65(a). Applicant may respond by providing one or both of the following:

(1) A response that fully satisfies all outstanding requirements and/or resolves all outstanding refusals.

(2) An appeal to the Trademark Trial and Appeal Board, with the appeal fee of $100 per class.

37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.6(a)(18); TBMP ch. 1200.

In certain rare circumstances, an applicant may respond by filing a petition to the Director pursuant to 37 C.F.R. §2.63(b)(2) to review procedural issues. 37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.146(b); TBMP §1201.05; TMEP §1704 (explaining petitionable matters). The petition fee is $100. 37 C.F.R. §2.6(a)(15).

/Dawn Feldman Lehker/
Trademark Examining Attorney
Law Office 111
U.S. Patent and Trademark Office
(571)272-9381
dawn.feldman-lehker@uspto.gov

TO RESPOND TO THIS LETTER: Go to http://www.uspto.gov/trademarks/teas/response_forms.jsp. Please wait 48-72 hours from the issue/mailing date before using the Trademark Electronic Application System (TEAS), to allow for necessary system updates of the application. For *technical* assistance with online forms, e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned trademark examining attorney. **E-mail communications will not be accepted as responses to Office actions; therefore, do not respond to this Office action by e-mail.**

All informal e-mail communications relevant to this application will be placed in the official application record.

WHO MUST SIGN THE RESPONSE: It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

PERIODICALLY CHECK THE STATUS OF THE APPLICATION: To ensure that applicant does not miss crucial deadlines or official

notices, check the status of the application every three to four months using the Trademark Status and Document Retrieval (TSDR) system at http://tsdr.uspto.gov/. Please keep a copy of the TSDR status screen. If the status shows no change for more than six months, contact the Trademark Assistance Center by e-mail at TrademarkAssistanceCenter@uspto.gov or call 1-800-786-9199. For more information on checking status, see http://www.uspto.gov/trademarks/process/status/.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/trademarks/teas/correspondence.jsp.

HOME DE

FOUNDRY LEXICON

0-9 A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |

Suche/Search

Machine capability
Machine capability is the measure of the actual quality of a machine with
respect to its specifications (abbreviation: cm: c stands for capability and m for machine).The capability of a machine or pro...
...Details

Machining allowance
Material allowance on the raw casting which is removed during machining.This refers to those allowances required on surface
to be machined in order to remove casting-related inclusions in the casting...
...Details

Macro hardness
Hardness of the macro structure measured by conventional hardness testing (according to Brinell, Vickers, Rockwell).
Conversely, the hardness of the individual structural constituents is referred to a...
...Details

Macro hardness testing machine
Equipment for measuring the hardness of the macro structure by conventional (for example, according to Brinell, Vickers, Rockwell) hardness testing (figures 1 and 2, see also Macro hardness). The test...
...Details

Magnesia
Magnesium oxide (MgO) derived from magnesite (MgCO3) or magnesium hydroxide (Mg(OH)2) by melting or sintering. This
highly refractory material is the main component of the magnesia bricks and magnesit...
...Details

Magnesia-chrome brick
Refractory brick produced from magnesia and chromite with a composition of 55 to 80% MgO and up to 20% Cr2O3.
Additional references:Basic liningLimestoneMagnesia brickMagnesite massLining ...
...Details

Magnesia brick

Refractory brick produced from sintering or melting magnesia (s. Magnesia). Additional references:Basic liningLimestoneMagnesia-chrome brickMagnesia brickMagnesite massLining ...
...Details

Magnesite
Technical term for magnesium carbonate, $MgCO_3$. Magnesite is the raw material for production of magnesia and the magnesi
bricks and masses used as refractory materials. Their density is 3.037g/cm3Ad...
...Details

Magnesite mass
Refractory mass produced from sintering or melting magnesia (s. Magnesia).Additional references:MagnesiteMagnesia brick, Magnesia-chrome brickRefractory materialsLining ...
...Details

Magnesium
Silvery white light metal with a high degree of oxygen affinity which immediately forms an invisible protective oxide layer in a
and is thus very stable. Symbol Mg Atomic number 12 Atomic weig...
...Details

Magnesium alloying system
Alloying system for the salt-free or salt-assisted melting and alloying of magnesium alloys (Fig. 1). In the alloying system, alloying components can be easily and safely introduced with previous and ...
...Details

Magnesium alloys
Entry currently in process....
...Details

Magnesium chip compactor
Pressing unit for thermal compaction of Mg chips.Cumbersome storage of the chips is no longer necessary. The pellets can be safely stored, transported and remolten with high material yields. A crusher...
...Details

Magnesium fading
The fading of magnesium is primarily a consequence of the oxidation and evaporation. Oxidation can be seen as oxygen contact. The causes for this include: Lower oxides, i.e. instable towards magnesium...
...Details

Magnesium holding furnace
Machine furnace in single or double-chamber construction for hot chamber die casting for all leading die casting machine manufacturers. An example of a magnesium machine furnace designed as a double-c...
...Details

Magnesium low pressure casting plant
Plant used to produce magnesium castings with the low pressure gravity die casting process. In this new process, the mold is filled by a mechanical melt pump (Figure 1) as the conventional low pressur...
...Details

...Details

Magnesium machine furnace
In hot-chamber die casting machines for magnesium, the machine furnace is part of the pressure die casting unit and is direct
fitted to the machine, which is exemplified in Fig. 1. Fig. 1: Mag...
...Details

Magnesium master alloy
Alloy for the production of nodular graphite cast iron (s. Magnesium treatment). Due to its high steam pressure it is not easily
possible to add pure magnesium to the liquid iron. For this reason, so-...
...Details

Magnesium melting and dosing furnace
Melting furnace with pump dosing device (Figure 1) which controls how magnesium alloys are kept warm under controlled an
safe conditions and makes it possible to automatically dose a magnesium melt i...
...Details

Magnesium pig heat-up device
Machine for automated drying and feeding of magnesium pigs and/or sprues in a magnesium melting furnace.
Application:Magnesium heat-up and loading machines are used in magnesium pre-melting furnaces, ...
...Details

Magnesium residual content
Magnesium content in the casting which is preserved as a residue after treatment and the associated bonding of the sulfur.
Determination of an optimum magnesium residual content for the existing produ...
...Details

Magnesium treatment
General expression for introduction of magnesium into cast iron melts for production of nodular graphite cast iron. Since
formation of nodular graphite is only possible in nearly sulfur-free melts, th...
...Details

Magnesium treatment wire
A steel hollow wire filled with magnesium granulate and/or with alloy elements such as silicon, Cer mix metal, carbon, coppe
or nickel for the production of nodular graphite cast iron. The wire is un...
...Details

Magnesium yield
Magnesium yield obtained in relation to the quantity of magnesium deployed. In addition to the magnesium content in the
iron, the desulfurization work of the magnesium must also be taken into account....
...Details

Magnet alloy
Alloy which can be used for the production of permanent magnets, i.e. this alloy has a high magnetic permeability. The most
widely known include iron-nickel or nickel-iron alloys which can also have p...
...Details

Magnet particle inspection
Surface examination of ferromagnetic materials which is standardized in DIN EN 1369, Founding - Magnetic particle inspectio
and serves for detection of cracks and/or defects in or close to the surf...
...Details

Magnet separator
Separates ferromagnetic material in granular materials during transport on a conveyor belt, e.g. iron residues from the recirculating mold material after demolding. During sand conditioning, the use...
...Details

Magnification
The magnification is indicated in the caption (e.g. for 100-fold magnification V = 100:1, or V = 100x) or as scale directly on the figure. For example in figures 1 and 2, the defined measured length ...
...Details

MAK (similar to TLV)
Abbreviation for "maximale Arbeitsplatzkonzentration" (similar to threshold limit value). The MAK value specifies the maximu
concentration level of a toxic substance in air at a workplace. For ex...
...Details

Malleable cast iron
Iron-carbon casting alloy which is standardized in DIN EN 1562. A distinction is made between whiteheart malleable cast iron
and blackheart malleable cast iron. For whiteheart malleable cast iron, GJM...
...Details

Manipulator blasting machines
These machines distinguish themselves by numerous uses and an excellent blasting effect in different areas of application. Traditional uses are: Desanding, deburring, surface treatment of crankcases, ...
...Details

Manufacturer
Definition of manufacturer: A person or corporate body (legal person), who manufactures cast parts. In contrast to that, a purchaser is a person or corporate body (legal person), who places an order w...
...Details

Manufacturer's certificate
Certificate according to DIN EN 10204 including the confirmation of the manufacturer without stating any test results that the
supplied products comply with the agreements in the purchase order. The m...
...Details

Marginal decarburization
The carbon content in the edge zone of cementite-containing iron materials is reduced when heat treated in oxidizing atmospheres. In this process, the carbon-content of cementite in the edge zone of t...
...Details

Martensite

Finely acicular, very hard and brittle structure. It is formed during quenching of austenite at such high cooling rates that the carbon does not have time for diffusion from the lattice. During heatin...
...Details

Martensite point
Starting point of the martensite formation. The kinetics of the austenite transformation can be represented in a time-temperature transformation diagram (TTT diagram) (Fig.). The TTT diagram shows the...
...Details

Master alloy
Alloy which is mainly based on a pure metal (base element) with an additive (main alloying element) and is only used as an additive during melting for the following purpose: adjusting the composition ...
...Details

Matchplate
Designation for double-sided pattern or turnover plate. The term becam known through DISA Matchplate mold systems.Additional references:Molding machineMolding processMatchplate molding machine ...
...Details

Matchplate
The contours for the upper part and the lower part of the pattern (see Pattern) are arranged on a plate opposite to each other Thus it is possible to produce both mold halves on aMatch plate.Addition...
...Details

Matchplate molding machine
Molding machine with the pattern plate being designed as a matchplate, i.e. drag and cope box are produced in one machine unit. For mold production, the drag box is formed at first and swiveled by 180...
...Details

Material condition
Aluminum alloys (casting alloys) The temper indicating a possible heat treatment of a casting is another important informatio for defining its properties. The heat treatment conditions are based on t...
...Details

Material number
Defined number for the unique designation of materials. According to this definition, the material numbers start as follows: Steel and iron with the main groups 0 (pig iron and cast iron) a...
...Details

matt iron
Liquid iron which is too cold for a successful casting. In general, this occurs if the iron has not been sufficiently overheated or has already cooled down. ...
...Details

Maurer diagram
Represents the influence of the carbon and silicone contents on the basic structure of cast iron alloys (s. Structure formation o cast iron). The diagram was developed by E. Maurer in 1924 using 30mm...

cast iron). The diagram was developed by E. Maurer in 1924 using Somm...
...Details

Melting base
Foundry-specific expression for a melt that is used for magnesium treatment, and therefore for production of nodular graphite cast iron (GJS). For standardization of the chemical composition of this...
...Details

Melting coke
Energy carrier for cupola furnace operations (see Cupola furnace) which is used for melting only. Melting coke corresponds to coke split.Additional references:Bed cokeHC cokeCokeCupola furnace network...
...Details

Melting heat
A term used in thermodynamics for the energy which is required to transform a material from solid to liquid state. In this process, bonding forces between molecules or atoms are overcome without incre...
...Details

Melting range
Temperature range between the liquidus temperature and the solidus temperature (Fig. 1) of an alloy (solidification interval). In this range, transition from the liquid to the solid state occurs durin...
...Details

Melting rate
Amount of liquid metal which can be molten by the melting furnace within a specified time. The melting rate is usually indicated in tons/hour. The melting rate of cupola furnaces is mainly a function ...
...Details

Metal front contact sensor
This cavity sensor transmits a signal which is triggered by a metal butt joint with the melt during the mold filling process (see Mold filling phase). When applied in die casting procedures, the metal...
...Details

< zurück Seite 1 Seite 2 Seite 3 weiter >

http://www.giessereilexikon.com/en/foundry-lexicon/M/?cHash=ce086847cf50402d6479a40be64a5bc7
07/08/2014 02:30:46 PM

GROBAMAT

FANUC

RHEINFELDEN

BÜHLER

Wheelabrator

YXLON

ACTech

RWP

FT&E

KÜTTNER

Contact | Imprint | Terms of Trade | Advertise

Refractory

From Wikipedia, the free encyclopedia

This article is about heat resistance. For other uses, see Refractory (disambiguation).

This article **needs additional citations for verification**. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed. *(December 2012)*

A **refractory** material is one that retains its strength at high temperatures. ASTM C71 defines refractories as "non-metallic materials having those chemical and physical properties that make them applicable for structures, or as components of systems, that are exposed to environments above 1,000 °F (811 K; 538 °C)".[1]

Refractory materials are used in linings for furnaces, kilns, incinerators and reactors. They are also used to make crucibles.

Refractory bricks in a torpedo car used for hauling molten iron

Contents [hide]

Français
Gaeilge
Hrvatski
Italiano
Nederlands
日本語
Polski
Português
Română
Русский
Simple English
Svenska
ไทย
Türkçe
Українська
Edit links

Refractory materials [edit]

Refractory materials must be chemically and physically stable at high temperatures. Depending on the operating environment, they need to be resistant to thermal shock, be chemically inert, and/or have specific ranges of thermal conductivity and of the coefficient of thermal expansion.

The oxides of aluminium (alumina), silicon (silica) and magnesium (magnesia) are the most important materials used in the manufacturing of refractories. Another oxide usually found in refractories is the oxide of calcium (lime). Fire clays are also widely used in the manufacture of refractories.

Refractories must be chosen according to the conditions they will face. Some applications require special refractory materials. Zirconia is used when the material must withstand extremely high temperatures. Silicon carbide and carbon (graphite) are two other refractory materials used in some very severe temperature conditions, but they cannot be used in contact with oxygen, as they will oxidize and burn.

Binary compounds such as tungsten carbide or boron nitride can be very refractory. Hafnium carbide is the most refractory binary compound known, with a melting point of 3890 °C.[2][3] The ternary compound tantalum hafnium carbide has one of the highest melting points of all known compounds (4215 °C).[4][5]

Classification of refractory materials [edit]

This section **does not cite any references or sources**. Please help improve this section by adding citations to reliable sources. Unsourced material may be challenged and removed. *(December 2012)*

Refractories can be classified on the basis of chemical composition, method of manufacture, physical form or according to their applications, fusion temperature.

Based on chemical composition [edit]

Acidic refractories [edit]

They consist of mostly acidic materials like alumina (Al_2O_3) and silica (SiO_2). They are not attacked or affected by acidic materials, but easily affected by basic materials. They include substances such as silica, alumina, and fire clay brick refractories.

Neutral refractories [edit]

These are used in areas where slags and atmosphere are either acidic or basic and are chemically stable to both acids and bases. The main raw materials belong to, but are not confined to, the R_2O_3 group. The common examples of these materials are alumina (Al_2O_3), chromia (Cr_2O_3) and carbon.

Basic refractories [edit]

These are used on areas where slags and atmosphere are basic; they are stable to alkaline materials but could react with acids. The main raw materials belong to the RO group to which magnesia (MgO) is a very common example. Other examples include dolomite and chrome-magnesia. For the first half of the twentieth century, the steel making process used artificial periclase (roasted magnesite) as a lining material for the furnace.

Based on method of manufacture [edit]

1. Dry press process
2. Fused cast
3. Hand molded

3. Hand molded
4. Formed (normal, fired or chemically bonded)
5. Un-formed (monolithic-plastic, ramming and gunning mass, castables, mortars, dry vibrating cements.)
6. Un-formed Dry refractories.

Shaped [edit]

These have standard size and shapes. These may be further divided into standard shapes and special shapes. Standard shapes have dimension that are conformed by most refractory manufacturers and are generally applicable to kilns or furnaces of the same types. Standard shapes are usually firebrick that have a standard dimension of 9 x 4-1/2 x 2-1/2 inches and this dimension is called a "one brick equivalent". "Brick equivalents" are used in estimating how many firebrick it takes to make an installation into an industrial furnace. Special shapes are specifically made for particular kilns or furnaces. Precast refractory shape technology has become a specialized field within the refractory industry in recent years. As demands increase for greater refractory lining performance and lower maintenance costs, refractory users are finding that one effective way to achieve those goals is to incorporate a broader use of precast refractory shapes into their lining systems. Across virtually all industries – petrochemical, steel, power generation, metal casting and treatment, wood products, minerals processing and others - the applications for precast shapes are limited only by the imagination, and almost invariably their use will result in better performance and true cost savings. This article will discuss the design and manufacture of precast refractory shapes, and the benefits to be gained from the standpoint of both material properties and installation logistics.

Precast Shape Design and Manufacturing [edit]

In order to realize the true benefits to be gained from the use of precast shapes, a thorough knowledge of how the shape system will be used and installed in the field is an absolute requirement during the design phase. The successful design and manufacture of a high-performance refractory shape system requires a unique understanding of refractory materials, manufacturing, anchoring systems, and construction practice. Dimensional tolerances, construction sequencing, lifting and handling capabilities at the site, anchoring facilities, and the actual service demands within the refractory lining environment are all factors that must be well known before the shape is designed.

Precast shape manufacturing inherently requires the use of a mold or pattern to form the shape. There are several methods for mold-making which are routinely employed, and the type of mold construction and materials used depends on the size, complexity, and dimensional tolerances required in the shape, and sometimes the quantity of shapes required. For simplistic shapes with loose dimensional tolerances (+/- 1/16"), plywood forms or metal fabricated forms can be used. Toward the other extreme, some shapes may require extremely tight tolerances, which require the use of a more sophisticated mold made from wood, plastic or metal. These molds may be of the type made by a foundry pattern maker or machine shop.

Another factor in the design of a precast shape has to do with the schedule and sequencing of the actual field installation. The shape design must take into account job accessibility, what other lining components will already be in place when the shapes are to be installed, and how the shape can be handled physically on the job site. Weight and lifting limitations must be considered and planned for, as well as the type of access available into the furnace or vessel. If necessary, lifting lugs or other fixtures can sometimes be incorporated into the shape design.

The design of the anchoring system to be used in the shape is of tremendous importance. In addition to the normal considerations of alloy type and anchor size, the precast shape design must also consider all alternatives for attaching the shape to the structure. Numerous methods can be used, including threaded stud attachments through the wall, welded fixtures, or bolted assemblies.

Perhaps most importantly, the proper refractory material must be selected to suit the demands of the application. Factors such as the desired temperature profile through the lining, expected mechanical stresses, potential chemical attack on the lining, erosion mechanisms, and expansion allowance must all be understood prior to selecting a material to be used in the precast shape.

A well-equipped precast manufacturing facility should include high-energy, large capacity mixers, automated mixing stations with conveyors for material delivery, vibration tables, digitally-controlled water addition, mixing time controllers, and adequate lifting capabilities for large shapes. Firing of shapes is accomplished with a digitally-controlled furnace with burners capable of firing to at least 1300 deg. F. In-house mold/pattern fabrication capabilities and CAD-generated drawings for design assistance should also be expected.

Benefits from Material Property Enhancement [edit]

Regardless of how complex or sophisticated the refractory castable is that is selected for an application, the physical properties of the material can be drastically reduced if care is not taken during the mixing, pouring, and curing processes. Particularly with the use of more complex refractory castables to solve specific wear issues, installation variables become even more critical to the performance of a lining.

wood, plastic or metal. These molds may be of the type made by a foundry pattern maker or machine shop.

Another factor in the design of a precast shape has to do with the schedule and sequencing of the actual field installation. The shape design must take into account job accessibility, what other lining components will already be in place when the shapes are to be installed, and how the shape can be handled physically on the job site. Weight and lifting limitations must be considered and planned for, as well as the type of access available into the furnace or vessel. If necessary, lifting lugs or other fixtures can sometimes be incorporated into the shape design.

The design of the anchoring system to be used in the shape is of tremendous importance. In addition to the normal considerations of alloy type and anchor size, the precast shape design must also consider all alternatives for attaching the shape to the structure. Numerous methods can be used, including threaded stud attachments through the wall, welded fixtures, or bolted assemblies.

Perhaps most importantly, the proper refractory material must be selected to suit the demands of the application. Factors such as the desired temperature profile through the lining, expected mechanical stresses, potential chemical attack on the lining, erosion mechanisms, and expansion allowance must all be understood prior to selecting a material to be used in the precast shape.

A well-equipped precast manufacturing facility should include high-energy, large capacity mixers, automated mixing stations with conveyors for material delivery, vibration tables, digitally-controlled water addition, mixing time controllers, and adequate lifting capabilities for large shapes. Firing of shapes is accomplished with a digitally-controlled furnace with burners capable of firing to at least 1300 deg. F. In-house mold/pattern fabrication capabilities and CAD-generated drawings for design assistance should also be expected.

Benefits from Material Property Enhancement [edit]

Regardless of how complex or sophisticated the refractory castable is that is selected for an application, the physical properties of the material can be drastically reduced if care is not taken during the mixing, pouring, and curing processes. Particularly with the use of more complex refractory castables to solve specific wear issues, installation variables become even more critical to the performance of a lining.

wood, plastic or metal. These molds may be of the type made by a foundry pattern maker or machine shop.

Another factor in the design of a precast shape has to do with the schedule and sequencing of the actual field installation. The shape design must take into account job accessibility, what other lining components will already be in place when the shapes are to be installed, and how the shape can be handled physically on the job site. Weight and lifting limitations must be considered and planned for, as well as the type of access available into the furnace or vessel. If necessary, lifting lugs or other fixtures can sometimes be incorporated into the shape design.

The design of the anchoring system to be used in the shape is of tremendous importance. In addition to the normal considerations of alloy type and anchor size, the precast shape design must also consider all alternatives for attaching the shape to the structure. Numerous methods can be used, including threaded stud attachments through the wall, welded fixtures, or bolted assemblies.

Perhaps most importantly, the proper refractory material must be selected to suit the demands of the application. Factors such as the desired temperature profile through the lining, expected mechanical stresses, potential chemical attack on the lining, erosion mechanisms, and expansion allowance must all be understood prior to selecting a material to be used in the precast shape.

A well-equipped precast manufacturing facility should include high-energy, large capacity mixers, automated mixing stations with conveyors for material delivery, vibration tables, digitally-controlled water addition, mixing time controllers, and adequate lifting capabilities for large shapes. Firing of shapes is accomplished with a digitally-controlled furnace with burners capable of firing to at least 1300 deg. F. In-house mold/pattern fabrication capabilities and CAD-generated drawings for design assistance should also be expected.

Benefits from Material Property Enhancement [edit]

Regardless of how complex or sophisticated the refractory castable is that is selected for an application, the physical properties of the material can be drastically reduced if care is not taken during the mixing, pouring, and curing processes. Particularly with the use of more complex refractory castables to solve specific wear issues, installation variables become even more critical to the performance of a lining.

wood, plastic or metal. These molds may be of the type made by a foundry pattern maker or machine shop.

Another factor in the design of a precast shape has to do with the schedule and sequencing of the actual field installation. The shape design must take into account job accessibility, what other lining components will already be in place when the shapes are to be installed, and how the shape can be handled physically on the job site. Weight and lifting limitations must be considered and planned for, as well as the type of access available into the furnace or vessel. If necessary, lifting lugs or other fixtures can sometimes be incorporated into the shape design.

The design of the anchoring system to be used in the shape is of tremendous importance. In addition to the normal considerations of alloy type and anchor size, the precast shape design must also consider all alternatives for attaching the shape to the structure. Numerous methods can be used, including threaded stud attachments through the wall, welded fixtures, or bolted assemblies.

Perhaps most importantly, the proper refractory material must be selected to suit the demands of the application. Factors such as the desired temperature profile through the lining, expected mechanical stresses, potential chemical attack on the lining, erosion mechanisms, and expansion allowance must all be understood prior to selecting a material to be used in the precast shape.

A well-equipped precast manufacturing facility should include high-energy, large capacity mixers, automated mixing stations with conveyors for material delivery, vibration tables, digitally-controlled water addition, mixing time controllers, and adequate lifting capabilities for large shapes. Firing of shapes is accomplished with a digitally-controlled furnace with burners capable of firing to at least 1300 deg. F. In-house mold/pattern fabrication capabilities and CAD-generated drawings for design assistance should also be expected.

Benefits from Material Property Enhancement [edit]

Regardless of how complex or sophisticated the refractory castable is that is selected for an application, the physical properties of the material can be drastically reduced if care is not taken during the mixing, pouring, and curing processes. Particularly with the use of more complex refractory castables to solve specific wear issues, installation variables become even more critical to the performance of a lining.

- Manway Plugs
- Air Grid Tiles
- Curb Blocks
- Peep Sites
- Nozzles
- Flue Walls
- Exhaust Ports
- Spouts
- Tap Blocks
- Sleeves

Precast refractory shapes will continue to be a growing specialty in the refractory industry in coming years. With the improved quality that can be achieved through controlled manufacturing processes, their expanding use will play a major role in improving refractory lining performance and reducing maintenance costs across all industries.

Unshaped (Monolithic refractories) [edit]

These are without definite form and are only given shape upon application. These types are better known as monolithic refractories. The common examples are plastic masses, Ramming masses, castables, gunning masses, fettling mix, mortars etc.

Dry vibration linings often used in Induction furnace linings are also monolithic, and sold and transported as a dry powder, usually with a magnesia/alumina composition with additions of other chemicals for altering specific properties. They are also finding more applications in blast furnace linings, although this use is still rare.

'Types of Monolithic Refractories"

Castable Refractories These are materials which consist of precision graded coarse and fine refractory grains. They are gelled by means of a binder system in the materials green state. Following the heat-up of the material the binder either transforms or volatilises facilitating the formation of a ceramic bond. The most common binder used in castables is HAC (high alumina cement). Other binders that are often used include hydratable aluminas and colloidal silica. Castables are mixed with water and then installed by either pouring or pumping. Placement of the material then requires vibration.

The cement-containing castables are often classified by the amount of cement they contain. Conventional castables can contain around 15-30% cement binder. As refractory technology evolved chemical additives were included in the package to reduce the amount of cement and water the product required - the impact of this was material with improved strengths and durability. Low cement castables contain between about 3-10% weight cement. Ultra low cement castables contain less than 3% cement component.

between about 3-10% weight cement. Ultra low cement castables contain less than 3% cement component.

A specialised type of refractory castable is the free flow castable which is able to be installed without vibration. They require a much lower water addition than traditional castables. This is due to the fact that they have particle packing and dispersing agents which modify the surface chemistry of the fine particles to improve the flow of the material.

Certain castable formulations may be installed via gunning techniques which involves spraying the material through a nozzle at a high speed. At the nozzle, cement accelerators are often added to promote rapid hardening of the material. This technique allows applications to be lined very quickly.

Plastic Refractories These are monolithic refractory materials which are tempered with water and/or added with a binder. They have sufficient plasticity to be pounded or rammed into place.

Ramming Refractories These materials are very similar to plastic refractories though are much stiffer mixes.

Patching Refractories These materials are similar to plastic refractories though have a very soft plasticity allowing them to be pounded into place.

Coating Refractories This type of product is used to protect refractory linings usually against chemical attack. Coating refractories are normally intended to cover just the working surface of a lining. They tend to be fairly thin layers.

Refractory Mortars Mortars consist of finely ground refractory materials which are then mixed with water to form a paste. They are used for laying and bonding shaped refractory products such as bricks. They are normally applied by trowelling.

Insulating Castables Insulating castables are specialised monolithic refractories that are used on the cold face of applications. There are made from lightweight aggregate materials such as vermiculite, perlite, extend-o-spheres, bubble alumina and expanded clay. Their main function is to provide thermal insulation. They are typically of low density and low thermal conductivity. Insulating refractories have inferior mechanical strength to that of conventional castables.

Based on fusion temperature [edit]

Based on fusion temperature, they are classified into three types:

1. Normal rofractory
2. High refractory.
3. Super refractory

Normal refractory [edit]

Fusion temperature = 1580 ~ 1780°C (e.g. Fire clay)

High refractory [edit]

Fusion temperature = 1780 ~ 2000°C (e.g. Chromite)

Super refractory [edit]

Fusion temperature > 2000°C (e.g. Zirconia)

Refractory anchorage [edit]

This section **does not cite any references or sources**. Please help improve this section by adding citations to reliable sources. Unsourced material may be challenged and removed. *(December 2012)*

All refractory require anchorage systems such as wire formed anchors, formed metal (for example, hexmetal) or ceramic tiles to support the refractory linings. The anchorage used for refractory on roofs and

vertical walls are more critical as they must remain able to support the weight of refractory even at the elevated temperatures and operating conditions.

The commonly used anchorages have circular or rectangular cross-section. Circular cross-section are used for low thickness refractory and they support less weight per unit area; whereas the rectangular cross-section is used for high thickness refractory and can support higher weight of refractory per unit area. The number of anchors to be used depend on the operating conditions and the refractory materials. The choice of anchors material, shape, numbers and size has significant impact on the useful life of the refractory.

Refractory heat-up [edit]

This section **does not cite any references or sources.** Please help improve this section by adding citations to reliable sources. Unsourced material may be challenged and removed. *(December 2012)*

Usually, refractories require special heat-up techniques to ensure that their performance will be attained as designed, and to avoid thermal shock and drying stresses until the operational status is achieved.

See also [edit]

- Fire brick
- Furnace
- Masonry oven
- Refraction (metallurgy)

References [edit]

1. ^ ASTM Volume 15.01 *Refractories; Activated Carbon, Advanced Ceramics*
2. ^ Hugh O. Pierson (1992). *Handbook of chemical vapor deposition (CVD): principles, technology, and applications*. William Andrew. pp. 206–. ISBN 978-0-8155-1300-1. Retrieved 22 April 2011.
3. ^ Hafnium, Los Alamos National Laboratory
4. ^ *McGraw-Hill encyclopedia of science and technology: an international reference work in fifteen volumes including an index*. McGraw-Hill. 1977. p. 360. ISBN 978-0-07-079590-7. Retrieved 22 April 2011.
5. ^ "Hafnium". *Encyclopædia Britannica*. Encyclopædia Britannica, Inc. Retrieved 17 December 2010.

External links [edit]

- The Refractories Institute
- The European Refractories Producer Federation

Wikimedia Commons has media related to ***Refractory materials***

Categories: Materials | Chemical properties | Refractory materials | Ceramic materials

To:	MAGNESITA REFRACTORIES COMPANY (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM
Sent:	7/18/2014 11:17:05 AM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)

IMPORTANT NOTICE REGARDING YOUR U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION (OFFICIAL LETTER) HAS ISSUED
ON **7/18/2014** FOR U.S. APPLICATION SERIAL NO. 77873477

Please follow the instructions below:

(1) TO READ THE LETTER: Click on this link or go to http://tsdr.uspto.gov, enter the U.S. application serial number, and click on "Documents."

The Office action may not be immediately viewable, to allow for necessary system updates of the application, but will be available within 24 hours of this e-mail notification.

(2) TIMELY RESPONSE IS REQUIRED: Please carefully review the Office action to determine (1) how to respond, and (2) the applicable response time period. Your response deadline will be calculated from **7/18/2014** (*or sooner if specified in the Office action*). For information regarding response time periods, see http://www.uspto.gov/trademarks/process/status/responsetime.jsp.

Do NOT hit "Reply" to this e-mail notification, or otherwise e-mail your response because the USPTO does NOT accept e-mails as responses to Office actions. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System (TEAS) response form located at http://www.uspto.gov/trademarks/teas/response_forms.jsp.

(3) QUESTIONS: For questions about the contents of the Office action itself, please contact the assigned trademark examining attorney. For *technical* assistance in accessing or viewing the Office action in the Trademark Status and Document Retrieval (TSDR) system, please e-mail TSDR@uspto.gov.

WARNING

Failure to file the required response by the applicable response deadline will result in the ABANDONMENT of your application. For more information regarding abandonment, see http://www.uspto.gov/trademarks/basics/abandon.jsp.

PRIVATE COMPANY SOLICITATIONS REGARDING YOUR APPLICATION: Private companies **not** associated with the USPTO are using information provided in trademark applications to mail or e-mail trademark-related solicitations. These companies often use names that closely resemble the USPTO and their solicitations may look like an official government document. Many solicitations require that you pay "fees."

Please carefully review all correspondence you receive regarding this application to make sure that you are responding to an official document from the USPTO rather than a private company solicitation. All official USPTO correspondence will be mailed only from the "United States Patent and Trademark Office" in Alexandria, VA; or sent by e-mail from the domain "@uspto.gov." For more information on how to handle private company solicitations, see http://www.uspto.gov/trademarks/solicitation_warnings.jsp.

PTO Form 1957 (Rev 9/2005)
OMB No. 0651-0050 (Exp. 07/31/2017)

Response to Office Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	85834316
LAW OFFICE ASSIGNED	LAW OFFICE 111
MARK SECTION	
MARK	http://tsdr.uspto.gov/img/85834316/large
LITERAL ELEMENT	MAGNESITA
STANDARD CHARACTERS	YES
USPTO-GENERATED IMAGE	YES
MARK STATEMENT	The mark consists of standard characters, without claim to any particular font style, size or color.
ARGUMENT(S)	
The Office Action has essentially a single objection, namely, that Applicant's evidence of acquired distinctiveness is allegedly insufficient. Applicant maintains that the evidence is in full compliance with the statute and regulations, but in order to expedite the application, submits herewith a Declaration of Use from 2010 to 2013. The gross sales of refractory products under the trademark MAGNESITA from May 1 to December 31, 2010 were in excess of 280,000 metric tons and US$103,000,000 for domestic production. The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2011 were in excess of 440,000 metric tons and US$200,000,000 for domestic production. The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2012 were in excess of 500,000 metric tons and US$200,000,000 for domestic production. The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2013 were in excess of 500,000 metric tons and US$230,000,000 for domestic production. The evidence clearly establishes that the mark has acquired distinctiveness, and should be registered on the Principal Register. The Office Action asserts that the terms magnesite, magnesia and magnesium "are used interchangeably" but this is not supported by the record. These words have different meanings. Applicant submits that the application should be approved for publication.	
EVIDENCE SECTION	
EVIDENCE FILE NAME(S)	
ORIGINAL PDF FILE	evi_5024695157-20140923162323247664_._014.09.23_filed_Declaration_of_Gross_Sales_from_2010_to_2013.pdf
CONVERTED PDF FILE(S) (2 pages)	\\TICRS\EXPORT16\IMAGEOUT16\858\343\85834316\xml10\ROA0002.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\858\343\85834316\xml10\ROA0003.JPG
SIGNATURE SECTION	

RESPONSE SIGNATURE	/Thomas J. Moore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
SIGNATORY'S PHONE NUMBER	703-683-0500 x137
DATE SIGNED	09/23/2014
AUTHORIZED SIGNATORY	YES
FILING INFORMATION SECTION	
SUBMIT DATE	Tue Sep 23 16:29:04 EDT 2014
TEAS STAMP	USPTO/ROA-XX.XXX.XX.XXX-2 0140923162904186757-85834 316-500c73b854ad42c67ba3b 590d73c951e2d3402a7c3f1ce cdc585592c36a98131-N/A-N/ A-20140923162323247664

PTO Form 1957 (Rev 9/2005)
OMB No. 0651-0050 (Exp. 07/31/2017)

Response to Office Action

To the Commissioner for Trademarks:

Application serial no. **85834316** MAGNESITA(Standard Characters, see http://tsdr.uspto.gov/img/85834316/large) has been amended as follows:

ARGUMENT(S)
In response to the substantive refusal(s), please note the following:

The Office Action has essentially a single objection, namely, that Applicant’s evidence of acquired distinctiveness is allegedly insufficient. Applicant maintains that the evidence is in full compliance with the statute and regulations, but in order to expedite the application, submits herewith a Declaration of Use from 2010 to 2013.

The gross sales of refractory products under the trademark MAGNESITA from May 1 to December 31, 2010 were in excess of 280,000 metric tons and US$103,000,000 for domestic production.

The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2011 were in excess of 440,000 metric tons and US$200,000,000 for domestic production.

The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2012 were in excess of 500,000 metric tons and US$200,000,000 for domestic production.

The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2013 were in excess of 500,000 metric tons and US$230,000,000 for domestic production.

The evidence clearly establishes that the mark has acquired distinctiveness, and should be registered on the Principal Register.

The Office Action asserts that the terms magnesite, magnesia and magnesium "are used interchangeably" but this is not supported by the record. These words have different meanings.

Applicant submits that the application should be approved for publication.

EVIDENCE

Original PDF file:
evi_5024695157-20140923162323247664_._014.09.23_filed_Declaration_of_Gross_Sales_from_2010_to_2013.pdf
Converted PDF file(s) (2 pages)
Evidence-1
Evidence-2

SIGNATURE(S)
Response Signature
Signature: /Thomas J. Moore/ Date: 09/23/2014
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member

Signatory's Phone Number: 703-683-0500 x137

The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

Serial Number: 85834316
Internet Transmission Date: Tue Sep 23 16:29:04 EDT 2014
TEAS Stamp: USPTO/ROA-XX.XXX.XX.XXX-2014092316290418
6757-85834316-500c73b854ad42c67ba3b590d7
3c951e2d3402a7c3f1cecdc585592c36a98131-N
/A-N/A-20140923162323247664

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.:	**85834316**
Application Filing Date:	January 28, 2013
Mark:	MAGNESITA
Applicant:	Magnesita Refractories Company
Attorney Ref:	MAGN6029/TJM

DECLARATION OF GROSS SALES FROM 2010 TO 2013

Commissioner for Trademarks
P.O. Box 1451
Alexandria, VA 22313-1451

Madam:

The undersigned, being hereby warned that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and may jeopardize the validity of the application or any registration resulting therefrom, declares that:

1. All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true.

2. The gross sales of refractory products under the trademark MAGNESITA from May 1 to December 31, 2010 were in excess of 280,000 metric tons and US$103,000,000 for domestic production.

3. The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2011 were in excess of 440,000 metric tons and US$200,000,000 for domestic production.

DECLARATION OF GROSS SALES
FROM 2010 TO 2013
U.S. Application No. 85834316

4. The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2012 were in excess of 500,000 metric tons and US$200,000,000 for domestic production.

5. The gross sales of refractory products under the trademark MAGNESITA from January 1 to December 31, 2013 were in excess of 500,000 metric tons and US$230,000,000 for domestic production.

Respectfully signed,

Date: August 26, 2014

Name and Title: Kelly L. Myers
General Counsel

To:	Magnesita Refractories Company (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 85834316 - MAGNESITA - MAGN6029/TJM
Sent:	11/10/2014 4:20:35 PM
Sent As:	ECOM111@USPTO.GOV
Attachments:	Attachment - 1 Attachment - 2 Attachment - 3 Attachment - 4 Attachment - 5 Attachment - 6 Attachment - 7 Attachment - 8 Attachment - 9 Attachment - 10

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

U.S. APPLICATION SERIAL NO. 85834316 **MARK:** MAGNESITA	*85834316*
CORRESPONDENT ADDRESS: THOMAS J. MOORE BACON & THOMAS, PLLC 625 SLATERS LN FL 4 ALEXANDRIA, VA 22314-1169	**CLICK HERE TO RESPOND TO THIS LETTER:** http://www.uspto.gov/trademarks/teas/response_forms.jsp VIEW YOUR APPLICATION FILE
APPLICANT: Magnesita Refractories Company	
CORRESPONDENT'S REFERENCE/DOCKET NO : MAGN6029/TJM **CORRESPONDENT E-MAIL ADDRESS:** mail@baconthomas.com	

OFFICE ACTION

STRICT DEADLINE TO RESPOND TO THIS LETTER

TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER **WITHIN 6 MONTHS** OF THE ISSUE/MAILING DATE BELOW.

THIS IS A FINAL ACTION

ISSUE/MAILING DATE: 11/10/2014

This letter responds to the applicant's correspondence filed on September 23, 2014.

The final refusal under Section 2(e)(1) is maintained and continued. The final requirement for a translation statement is maintained and continued.

Final Section 2(f) Claim Fails

In the prior office action the examining attorney refused registration under Section 2(f) because the evidence was insufficient to support a claim of Section 2(f). The applicant has submitted some sales figures for the goods; however, the Section 2(f) claim still fails. The proposed mark is considered generic with respect to the applicant's goods and the evidence is insufficient with respect to the services in International Class 37.

The applicant's mark is MAGNESITA for "refractory products not primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes; and pre-cast refractory shapes" and "providing information via a global computer network on the use of refractory products to construct, maintain and repair refractory apparatus using refractory products; and providing information via a global computer network on the use of mechanical equipment and computer models to construct, maintain and repair refractory installations."

The English translation of MAGNESIA is " magnesite" or "magnesia."
Magnesite or magnesia is one of the primary components in refractory products. In prior office actions the examining attorney attached excerpts of articles discussing the uses of magnesite or magnesia in refractory products. This evidence demonstrates that the term is considered descriptive for an important component of the goods and services. Magnesite or magnesia products are also used when the applicant repairs and maintains refractory products.
The applicant attached a declaration of the gross sales figures from 2010 to 2013 for refractory products sold under the proposed MAGNESITA mark. The sales figures alone are insufficient to support a claim of acquired distinctiveness under Section 2(f).
First, applicant cannot overcome this refusal by submitting a claim of acquired distinctiveness under Trademark Act Section 2(f). *See* 15 U.S.C. §1052(f). Such a claim would be insufficient because no amount of purported proof that a generic term has acquired secondary meaning can transform that term into a registrable trademark or service mark. *See In re Bongrain Int'l (Am.) Corp.*, 894 F.2d 1316, 1317 n.4, 13 USPQ2d 1727, 1728 n.4 (Fed. Cir. 1990); *H. Marvin Ginn Corp. v. Int'l Ass'n of Fire Chiefs, Inc.*, 782 F.2d 987, 989, 228 USPQ 528, 530 (Fed. Cir. 1986); TMEP §1212.02(i).
The applicant's goods are refractory products. As was shown in the prior office action MAGNESITA means " magnesite" or "magnesia." As was also shown in the prior office actions, magnesite or magnesia is a primary component of refractory products. The examining attorney also attaches excerpts of articles discussing types of magnesia refractory bricks and an article about the applicant that discusses that one of its primary exports is Dead Burned Magnesia. The term is a primary component in the applicant's goods.
The name of an ingredient, a key aspect, a central focus or feature, or a main characteristic of goods and/or services may be generic for those goods and/or services. *See In re Tires, Tires, Tires, Inc.*, 94 USPQ2d 1153, 1157 (TTAB 2009) (holding TIRES TIRES TIRES generic for retail tire store services); *In re Cent. Sprinkler Co.*, 49 USPQ2d 1194, 1199 (TTAB 1998) (holding ATTIC generic for automatic sprinklers for fire protection used primarily in attics); TMEP §§1209.01(c) *et seq.*; *see also In re Northland Aluminum Prods. Inc.*, 777 F.2d 1556, 1559-60, 227 USPQ 961, 963-64 (Fed. Cir. 1985) (holding BUNDT generic for cake mix); *In re A La Vieille Russie, Inc.*, 60 USPQ2d 1895, 1900 (TTAB 2001) (holding RUSSIANART generic for art dealership services); *A.J. Canfield Co. v. Honickman*, 808 F.2d 291, 292, 1 USPQ2d 1364, 1365 (3d Cir. 1986) (holding CHOCOLATE FUDGE generic for diet sodas). Thus, a term does not need to be the name of a specific product and/or service to be found generic. *See In re Eddie Z's Blinds & Drapery, Inc.*, 74 USPQ2d 1037, 1042 (TTAB 2005) (holding BLINDSANDDRAPERY.COM generic for online retail store services featuring blinds, draperies, and other wall coverings); *In re Candy Bouquet Int'l, Inc.*, 73 USPQ2d 1883, 1888 (TTAB 2004) (holding CANDY BOUQUET generic for "retail, mail, and computer order services in the field of gift packages of candy"); *In re Ricci-Italian Silversmiths, Inc.*, 16 USPQ2d 1727, 1729-30 (TTAB 1990) (holding ART DECO generic for flatware); *In re Hask Toiletries, Inc.*, 223 USPQ 1254, 1255 (TTAB 1984) (holding HENNA 'N' PLACENTA generic for hair conditioner).

Second, even if the proposed mark is not considered generic for the goods, it is certainly highly descriptive. It is also highly descriptive used in connection with the services. The applicant has only been using the proposed mark in commerce in the United States since 2010, not even five years of use. In addition, the applicant has only given us gross sales figures. The applicant has not given any information on how much is spent on advertising or promoting the product in the United States. The applicant has not given any information or examples of how and where the applicant promotes its goods or services.
As was discussed in the prior office action, To support the claim of acquired distinctiveness, applicant may respond by submitting additional evidence. *In re Half Price Books, Records, Magazines, Inc.*, 225 USPQ 219, 220 n.2 (TTAB 1984); TMEP §1212.02(g). Such evidence may include specific dollar sales under the mark, advertising figures, samples of advertising, consumer or dealer statements of recognition of the mark as a source identifier, affidavits, and any other evidence that establishes the distinctiveness of the mark as an indicator of source. *See* 37 C.F.R. §2.41(a); *In re Ideal Indus., Inc.*, 508 F.2d 1336, 1339-40, 184 USPQ 487, 489-90 (C.C.P.A. 1975); *In re Instant Transactions Corp. of Am.*, 201 USPQ 957, 958-59 (TTAB 1979); TMEP §§1212.06 *et seq.*
The following factors are generally considered when determining whether a proposed mark acquired distinctiveness based on extrinsic evidence: (1) length and exclusivity of use of the mark in the United States by applicant; (2) the type, expense, and amount of advertising of the mark in the United States; and (3) applicant's efforts in the United States to associate the mark with the source of the goods and/or services, such as unsolicited media coverage and consumer studies. *See In re Steelbuilding.com*, 415 F.3d 1293, 1300, 75 USPQ2d 1420, 1424 (Fed. Cir. 2005); *Bd. of Trs. v. Pitts, Jr.*, 107 USPQ2d 2001, 2016 (TTAB 2013). A showing of acquired distinctiveness need not consider all these factors, and no single factor is determinative. *In re Steelbuilding.com*, 415 F.3d at 1300, 75 USPQ2d at 1424; *see* TMEP §§1212.06 *et seq.* The USPTO will decide each case on its own merits.
The applicant has not been using the proposed mark in the United States for very long. The applicant has not given any information about advertising or promotion in the United States or about the applicant's efforts to associate the mark with the source of the goods.
For the above reasons the refusal of the claim of acquired distinctiveness under Section 2(f) is maintained and made FINAL.

Response Guidelines

Applicant must respond within six months of the date of issuance of this final Office action or the application will be abandoned. 15 U.S.C. §1062(b); 37 C.F.R. §2.65(a). Applicant may respond by providing one or both of the following:

(1) A response that fully satisfies all outstanding requirements and/or resolves all outstanding refusals.

(2) An appeal to the Trademark Trial and Appeal Board, with the appeal fee of $100 per class.

37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.6(a)(18); TBMP ch. 1200.

In certain rare circumstances, an applicant may respond by filing a petition to the Director pursuant to 37 C.F.R. §2.63(b)(2) to review procedural issues. 37 C.F.R. §2.64(a); TMEP §714.04; *see* 37 C.F.R. §2.146(b); TBMP §1201.05; TMEP §1704 (explaining petitionable matters). The petition fee is $100. 37 C.F.R. §2.6(a)(15).

/Dawn Feldman Lehker/
Trademark Examining Attorney
Law Office 111
U.S. Patent and Trademark Office
(571)272-9381
dawn.feldman-lehker@uspto.gov

TO RESPOND TO THIS LETTER: Go to http://www.uspto.gov/trademarks/teas/response_forms.jsp. Please wait 48-72 hours from the issue/mailing date before using the Trademark Electronic Application System (TEAS), to allow for necessary system updates of the application. For *technical* assistance with online forms, e-mail TEAS@uspto.gov. For questions about the Office action itself, please contact the assigned trademark examining attorney. **E-mail communications will not be accepted as responses to Office actions; therefore, do not respond to this Office action by e-mail.**

All informal e-mail communications relevant to this application will be placed in the official application record.

WHO MUST SIGN THE RESPONSE: It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

PERIODICALLY CHECK THE STATUS OF THE APPLICATION: To ensure that applicant does not miss crucial deadlines or official notices, check the status of the application every three to four months using the Trademark Status and Document Retrieval (TSDR) system at http://tsdr.uspto.gov/. Please keep a copy of the TSDR status screen. If the status shows no change for more than six months, contact the Trademark Assistance Center by e-mail at TrademarkAssistanceCenter@uspto.gov or call 1-800-786-9199. For more information on checking status, see http://www.uspto.gov/trademarks/process/status/.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/trademarks/teas/correspondence.jsp.

http://www.rhi-ag.com/internet_en/products_solutions_en/cem_en/cem_prod_en/cem_prod_bb_en/
11/10/2014 03:59:04 PM

RHI

Contact Us

Group | Products & solutions | Investor Relations | Presslounge | Careers | Contact | German

Basic bricks

Home | Products & solutions | Cement | Products | Magnesite bricks

Cement
- Aggregates
- Products
  - Magnesite bricks
    - ANKRAL Q-Series
    - Top-grade magnesia spinel bricks
    - High-grade magnesia spinel bricks
    - Standard-grade magnesia spinel bricks
    - Tailor-made magnesia spinel bricks
    - Magnesia chromite bricks
  - Alumina bricks
  - Alumina monolithics / Castables
  - Insulation material
  - Mortars
- Services
- Publications

Enviro-Energy-Chemistry
Glass
Lime
Nonferrous metals
Raw materials
Steel

Magnesite bricks

RHI's objective is to increase your profitability. We do so by achieving a long service life with a high-quality selection of RHI refractory bricks. The right products to withstand severe conditions in alternative fuel fired cement kilns.

ANKRAL Q-series	Top-grade magnesia spinel bricks	High-grade magnesia spinel bricks
Standard-grade magnesia spinel bricks	Tailor-made magnesia spinel bricks	Magnesia chromite bricks

Depending on your requests and process conditions, we select the optimal brick qualities for you - always considering refractoriness, chemical corrosion resistance, flexibility, thermal conductivity and coating ability.

We are also proud to offer a wide range of basic bricks based on our patented "Hercynite- and Galaxite Spinel Technology".

Spinels are flexilizers which support flexibility in basic bricks – important for rotary kiln bricks (affected by mechanical stress). Of all members of the spinel groups, hercynite and galaxite were found to be the most efficient. Leading in technology, these spinels significantly improve the quality of rotary kiln bricks.

Mechanical problems?

Our solution: ANKRAL QF. Excellent flexibility in tyre areas and at distorted kiln shells.

more »

Home | Impressum | Sitemap | RHI Contact

The Refractories Institute

Manufacturers

Magnesita Refractories (formerly LWB Refractories)
425 South Salem Church Road
York, PA 17408 - 5955
Phone: (717) 793-5399;
Fax: (717) 793 - 5375;
Website: www.magnesita.com
www.lwbref.com

Magnesita Refratários S.A. ("the Company" or "Magnesita") is a vertically integrated refractory producer supplying the steel, cement and various other industries. In addition, the Company exports some of its raw materials, DBM (Dead Burned Magnesia), and refractories to a wide range of countries. The Company is the leading operator in refractory products in South America, and serves customers in North America, Europe and Asia.

Magnesita operates production facilities in Brazil, Argentina, United States, France, Belgium, Germany, Taiwan and China, representing an aggregate production capacity in excess of 1,430 ktpy.

The Company benefits from some of the largest and highest quality reserves of dolomite, magnesite and talc in the world. Magnesita also has other mineral deposits, including chromite and several clays throughout Brazil. The Company is able to use 80% (by volume) of its own raw materials in the production of refractories, making it one of the lowest cost producers in the industry.

Magnesita operates three Research and Development Centers (CPqD), in Brazil, United States and Germany, which support the needs of the Company and its regions. The group is equipped with state of the art equipment for research and development (R&D) in refractory products and raw materials and has a number of technology license agreements with other world refractory technology leaders.

Management — U.S. Operations:
Jim Piraino, COO
Giovanni Tancredo, VP Sales & Marketing
Rick Gladfelter, VP Manufacturing

Rick Gladfelter, VP Manufacturing
Paul Dydek, VP Finance

Plant Locations:
York, PA:
also plants in
Brazil, Argentina, Germany, France, China, Taiwan

Research Locations:
York, PA; Contagem, Brazil; Hagen, Germany

Laboratory Locations:
All major manufacturing locations

Sales Locations:
York, PA, Brazil; Argentina; Colombia; Paraguay; Peru; Uruguay, Mexico; Germany; France; Italy, South Africa; Sweden; UK; China; Australia; Japan; S. Korea; Taiwan;

TYPES OF PRODUCTS:

Bricks and Shapes:	***Bulk Refractories:***	***Flow Control Products:***
Alumina	Castables – basic and alumina	Dolomite Graphite (DG) Tubes
Alumina Mag Carbon/ Mag	Coatings	Isostatic products
Alumina Carbon	Dry Vibratables	Slide Gate plates, nozzles, sets
Alumina Silicon Carbide	Gunning Mixes	
Bottom Pour (Holloware)	Mortars	
Doloma/Magnesia Doloma - fired and cured	Plastics	
Magnesia Carbon	Ramming Mix	
Magnesia Chrome	Taphole Mix	
Magnesia Spinel		
Stir Plugs		
Pre-cast and– basic and alumina		
Isostatically pressed shapes		
Zircon nozzles		

TRADEMARKS/BRAND NAMES

DOLA B	DOLOTRAN	JEBCO SHOGUN
JEBCO GUN	PENTIFOIL	DOLO RAM
DOLOMAX	TRIFOIL	PYRO-GATE
DKL		

http://www.hindustanproduceco.com/dead-burnt-magnesite-fused-magnesite.html 11/10/2014 04:18:30 PM

Home Profile Our Achievements Our Network Contact Us Enquiry

HINDUSTAN
PRODUCE COMPANY

METALS MINERALS FERROUS ALLOYS FERROUS ALLOYS FERROUS ALLOYS

www.hindustanproduceco.com

Product We Offer

- REFRACTORIES
  - Wolframite Concentrate
  - Dead Burnt Magnesite / Fused Magnesite
  - Calcined Magnesite / Seawater Magnesite
  - Basic Refractories / Monolithic
  - [illegible]
  - High Alumina Bricks / Fire Bricks
  - Roof sets / B.F. Sets
  - Calcined Bauxite / Carbon Blocks
- FERRO ALLOYS
- NOBLE ALLOYS
- MINERALS
- STEEL & METALS
- COAL & COKE (LAM FOUNDRY)
- CARBONISERS
- HOPE BAGS / PIPES / FABRIC
- CONSUMABLES
- VEGETABLE OILS
- CHEMICAL
- MISCELLANEOUS

Home » REFRACTORIES » Dead Burnt Magnesite / Fused Magnesite

REFRACTORIES

Dead Burnt Magnesite / Fused Magnesite

Dead Burnt Magnesite is produced in the Rotary Kiln by sintering raw magnesite at a controlled temperature of 1750 degree centigrade and its chemically inactive. Dead Burnt Magnesite is consume almost exclusively in the production of Refractory Field. This products are used in:

- Refractory Industry for manufacture of Basic Refractory Bricks
- Manufacture of Ramming Mass composition, Fettling material and Magnesite Mortar
- It is used in SLAG beneficialness and in SLAG splashing in Arc Furnaces
- It is also used as a coating material in Steel Industry

The material of electro-fused magnesite sinter is selected from high-grade fused magnesite or high purity caustics calcined magnesite, which is fused in arc furnace to finish the products. The products possess high purity, high crystalline grain and compact texture, have high heat-vibration steady and cinder corrosion resistance. Fused magnesite is widely used in making high quality magnesite bricks, magnesia-carbon and bricks and unshaped refractory materials.

BACK 1 2 3 4 5 6 7 8 NEXT

:: Send Enquiry

BACK 1 2 3 4 5 6 7 8 NEXT

http://www.hindustanproduceco.com/dead-burnt-magnesite-fused-magnesite.html 11/10/2014 04:18:30 PM

:: Our Product Range ::

FERRO ALLOYS | NOBLE ALLOYS | REFRACTORIES | MINERALS | STEEL & METALS
COAL & COKE (LAM FOUNDRY) | CARBONISERS | HDPE BAGS / PIPES / FABRIC | CONSUMABLES | VEGETABLE OILS
CHEMICAL | MISCELLANEOUS

Home Profile Our Achievements Our Network Contact Us Enquiry

http://www.grecianmagnesite.com/news/new-refractory-fused-magnesia-product-under-pyrmag-brand-launched-grecian-magnesite-and-ucm 11/10/2014 04:19:17 PM

Skip to main content

GRECIAN MAGNESITE
MINING INDUSTRIAL SHIPPING AND COMMERCIAL SA

news

- NEWSBULLETIN
- PRESENTATIONS

GeoCrete

New Refractory Fused Magnesia Product Under the "PyrMag" Brand, Launched by Grecian Magnesite and UCM Magnesia

actory Fused Magnesia Product Under the "PyrMag" ... sian Magnesite and UCM Magnesia ... Grecia

Home >> News >> New Refractory Fused Magnesia Product Under the "PyrMag" Brand, Launched by Grecian Magnesite and UCM Magnesia
11 December, 2013 - 14:24 -- admin

UCM Magnesia

GRECIAN MAGNESITE

IMERYS
Fused Minerals

New Refractory Fused Magnesia Product Under the "PyrMag" Brand, Launched by Grecian Magnesite and UCM Magnesia

promotional material

Company Presentation

Grecian Magnesite S.A. and UCM Magnesia, the IMERYS Fused Minerals plant in Hull, are pleased to announce the production and joint marketing of a premium refractory electro-fused magnesia product, sold under the "PyrMag" brand name.

PyrMag is a high purity product (typical MgO 98,4%) with low levels of impurities, in all size fractions. PyrMag exhibits enhanced physical properties such as exceptionally high bulk density (3,54 g/cm3), and a large mean Periclase crystal size of 1300 microns.

PyrMag's superior refractory properties makes it perfectly suitable for the production of high quality shaped or unshaped refractory products for use in the steelmaking, cement and nonferrous metals industries (e.g. MgO-C bricks, special castables, etc.); including other high temperature applications requiring high performance, low iron, refractory raw materials.

PyrMag is manufactured in electric arc furnaces in IMERYS facility in the UK, using as raw material, high purity cryptocrystalline caustic calcined magnesia from Grecian Magnesite's Turkish affiliate, Akdeniz Mineral Kaynaklari AS (AMK).

This unique combination of experience and expertise, based on extensive knowledge on market standards and requirements, along with operational and technical capabilities, guarantees the consistent and reliable production and supply of a high quality fused magnesia product for ever demanding, high-end refractory applications.

Fig. 1

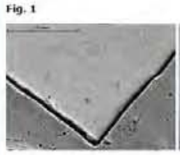


Fig. 2

Fig 1 : PyrMag's microstructure exhibiting large periclase crystal size

Fig 2 : PyrMag's high density & high purity leads to the formation of large size periclase monocrystals

Ημερομηνία Δημοσίευσης:
Monday, November 11, 2013

Genesis of Magnezit Group

History of "Magnezit Group" is an integral part of genesis of the "Magnezit" plant. Magnesite as a refractory material was for a long time unknown for metallurgists of Ural, and magnesite deposit in Satka was discovered at the end of XIX century.Russian businessmen Markuson M. I., Schuppe A. F., Nemirovski M. D. united their capitals, established so-called "Partnership on trust" and decided to organize a special plant to manufacture magnesite refractory materials and caustic powder.

In 1900 on two lots of the deposit these businessmen started mining of magnesite and at the same time they began to build a plant: 14-chambers' furnace with wood generator for firing of raw magnesite and bricks was built; a ball mill with steam-engine of 10 HP and two-caged press were installed. In September of 1901 this plant produced its first articles of the new refractory material — magnesite; within a year 3161 tons of raw magnesite were extracted; 610 tons of magnesite powder and 240 tons of bricks were manufactured.

Mining of magnesite in open cast mines was carried out by hand; ore delivery towards the burning furnaces was provided by carting; but even in such conditions the level of magnesite extraction in Satka by 1913 reached 10% of the world level.

Within the first decades the technological process was the following: after burning the sorted magnesite in buckets was delivered towards the mill, form the mill the ground magnesite in sacks was brought to the mixers, and after mixing the gained mass was left for mature in special pits for seven days.

After maturing this mass was delivered to the press: at that time press wasn' t mechanical, and the bed of press was rotated by hand.

Production capability of such press was 1500 bricks per day. Pressed green bricks were taken on boards to the driers, which were supplied with the heat from special furnaces, heated with wood; dried bricks on boards were taken to the place of loading into the chamber furnace. The furnace worked on natural draft; temperature within the furnace wasn' t measured; in general, there was no control over the firing process.

But even in such conditions the refractory manufacturers in Satka managed to produce high-class refractory materials, and in 1905 at the World Exhibition in Liege (Belgium) products of "Magnezit Partnership" were awarded the gold medal.

In1913 "Magnezit Partnership" was reorganized into joint-stock company. The authorized capital of JSC "Magnezit" was 2 million roubles and was divided for 20 thousand shares with nominal value of 100 roubles each.

Using in Russia of magnesite powder for fettling of furnace bottoms, and application of magnesite bricks for bricklaying of walls and bottoms of open — hearth furnaces in place of less temperature-resistant fireproofs, provided significant demand for magnesite products, which, in its turn, resulted in rather quick growth of the plant.

Before the October revolution of 1917 the maximum production capacity of this plant was achieved in 1916: more than 71 thousand tons of raw

magnesite were extracted; 31 thousand tons of metallurgical powder, more than 10 thousand tons of bricks and about 500 tons of caustic were manufactured. The plant was provided with 10 shaft furnaces and one 35-meters rotary kiln for burning of metallurgical powder, four 12-chambers and 14-chambers furnaces fore burning of bricks and caustic. For pressing of bricks five hydraulic presses were used.

In 1918 the plant was nationalized; during the Civil war the most customers-plants were destroyed or put out of operation, demand for fireproof materials declined greatly. As a result production level, compared with 1916 year' s, for powders reduced 15 times, for articles — 7 times.

Since1923 gradual and permanent growth of production had begun: two chamber furnaces were built and set into operation; three hydraulic presses were installed.By 1927 according to all ratios the plant surpassed the pre-revolutionary production level.

The first stage of production mechanization and modernization took place at the end of 20-ies — the beginning of 30-ies. For mining steam, and than electric excavators appeared, rock drills were introduced; mechanical narrow-gauge railway transport was put into practice. A new shop with four rotary kilns of 75 meters length and 3 meters diameter for burning of raw magnesite was built. A roll mill and a ball mill. Were installed in the grinding shop.

For pressing of bricks for the first time were used two 525-ton and six 725-ton hydraulic presses. For burning of bricks 5 gas-chamber kilns were constructed; and generating station was provided with 6 perfect (for that time) gas-producer plants. Boiler-mechanical shop was built; many auxiliary and preparatory lines were mechanized.

The plant gradually increased its production capacity due to installation of the new, more up-to date equipment and building of new shops. But even in 1934 hand labour prevailed over mechanized labour, and horse remained the main drawing force at the plant. That year the plant possessed only 4 lorries and 4 tractors.

The second stage of modernization was started in the middle of 30-ies. The second shop, provided with three rotary kilns of 50 meters length and 2,5 meters diameter, for burning of magnesite for caustic powder, was built. Gas-fired ring furnace for burning of bricks was set into operation; reconstruction of chamber furnaces was continued; shelf driers were substituted by the tunnel ones, supplied with utilization of removing heat from chamber furnaces. For the first time at this plant multicyclone dust collector for purifying of waste gases from the rotary furnaces of caustic shop, were constructed and set into operation.

Since 1939 the plant started commercialized output of thermal-resistant magnesite-chromite articles, that resulted in significant increase of service life of roofs of open-hearth furnaces and also promoted the increase of steel making. In 1940 "Magnezit" plant already became the largest enterprise of refractory industry in Russia.

During the hard period of the II World War this plant provided metallurgical enterprises of Russia with magnesite powder and refractory bricks. In 1941 the plant mastered the production and started output of large-size magnesite-chromite bricks for lining roofs of open-hearth furnaces, that provided 2,5 increase of the roofs service life; the necessary technologies were developed and output of large size magnesite steel-teeming nozzles, metallurgical powders according to new, more severe technical conditions was started.

In 1944 the plant developed a technology of manufacturing of thermal-resistant magnesite-chromite bricks with higher content of chromite and increased deformation point under the load; production of unburned refractories was started. "Magnesite" plant not only provided with refractories all demands of the country, but also delivered by lend-lease several dozens tons of metallurgical powder, developed production of new types of products — silicate blocks (liquid glass) and carborundum electric heaters.

Restoration of the national economy, destroyed by the war, required a great volume of metal, and, therefore — refractories. Within the first years after war growth of production capacities was reached due to the increase of productivity per hour and growth of equipment application ratio. But as far as growth on the account of these measures is rather limited, government of Russia made a decision concerning the reconstruction of the plant and building of new production shops.

During 1956 six rotary kilns of 90 meters length and 3,5 meters diameter were one by one set into operation. In 1958 construction of the first part of a new magnesite plant was completed — a new brick shop, equipped with four tunnel kilns, ten hydraulic 1000-ton presses, grinding department and storehouse of ready made products, was established.

Increase of production capacities was accompanied by solving of the problem of improving the quality of magnesia refractories and increasing of their thermal resistance. Thus, production of high-resistant magnesite bricks, spinel-bound products, refractories of various shape was developed for convertors and 900-ton open-hearth furnaces.

From 1965 till 1970 objects of the second stage of the new magnesite plant were one by one set into operation: four largest in the country 170-meters rotary kilns, 6 tunnel kilns, 1000-ton presses П-907 and 1500-ton ПР-7 presses. Since the beginning of the 70-ies intensive activities for mechanization of the process of removing the bricks from presses and placing them onto the kiln cars were carried out in the plant' s shops.

In 1977 after the order of Ministry of Ferrous metallurgy the "Magnezit" plant was transformed into "Magnezit" integrated plant, with parallel affiliation of Kyshtymsky refractory plant and Cheliabinsk mining administration.

In January of 1978 the shop of fused refractory materials MPS-4 produced its first product — periclase. For the first time the production of fused periclase at "Magnezit" plant was introduced in 1971 with the use of furnaces of "Porogy" ferrous-making plant; later, in the beginning of 70-ies, fused periclase in small volumes was produced on the experimental device in the first burning shop.Construction of MPS-4 was mostly carried out by the integrated plant itself, without any attraction of construction organizations; and already by 1990 the MPS-4 output of melted refractory materials achieved 29 thousand tons, and estimated capacity was exceeded 2,5 times.

During the 80-ies the systematic introduction of new production capacities, modernization of mining and technological equipment took place. For the purposes of transportation of rock mass the miners successfully mastered large 110-ton dump-trucks; for removing the overburden excavators with ladle capacity of 8 and 10 m? were used; preparatory works for extraction of magnesite by underground mining were started. The department of production of plates for slide steel teeming, new grinding department, technological line for manufacturing of magnesite-chromite articles for steel degasifying treatment, department for production of magnesia-carbon articles were constructed and set into operation. Two 170-meter rotary furnaces were built and launched; new presses of "Leys" and "Bucher-Guver" were installed; a new plant for packing the articles with shrinkable film was developed.

Within 90-s the main activity of JSC "Kombinat "Magnezit" was directed not for increasing of production volumes, but for improving of quality and thermal-resistance of products. The system of control over the burning process in the rotary kilns (MAIC) was introduced; technology of fusing of alumina-magnesium spinel was developed; two furnaces for thermal treatment of magnesia-carbon bricks were built and set into operation; production technologies of periclase-spinel and magnesia-carbon refractories were developed. In 1996 the construction of "Magnezitovaya" mine was finished. Volumes of ore, received by underground mining, increase each year and within 10–15 years the gradual, planned turn from open cast mining of magnesite towards the underground mining should be completed. In July of 2000 the department of grinding, pressing and shaping of dust, trapped from the kiln gases, was constructed and set into operation. This new step should allow to use trapped dust in production, which should result in economy of raw materials and protection of the environment.

Within 100 years of evolution a small refractory plant turned into the largest company of the Russian refractory industry. Due to possession of its own raw materials base, JSC "Kombinat "Magnezit" provides the enterprises of Russia and CIS-countries with periclase-containing products and powders, required in construction and repair of heating units in ferrous and non-ferrous metallurgy, chemical, cement, paper-making and other industries.

To:	Magnesita Refractories Company (mail@baconthomas.com)
Subject:	U.S. TRADEMARK APPLICATION NO. 85834316 - MAGNESITA - MAGN6029/TJM
Sent:	11/10/2014 4:20:36 PM
Sent As:	ECOM111@USPTO.GOV
Attachments:	

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)

IMPORTANT NOTICE REGARDING YOUR U.S. TRADEMARK APPLICATION

USPTO OFFICE ACTION (OFFICIAL LETTER) HAS ISSUED
ON **11/10/2014** FOR U.S. APPLICATION SERIAL NO. 85834316

Please follow the instructions below:

(1) TO READ THE LETTER: Click on this link or go to http://tsdr.uspto.gov, enter the U.S. application serial number, and click on "Documents."

The Office action may not be immediately viewable, to allow for necessary system updates of the application, but will be available within 24 hours of this e-mail notification.

(2) TIMELY RESPONSE IS REQUIRED: Please carefully review the Office action to determine (1) how to respond, and (2) the applicable response time period. Your response deadline will be calculated from **11/10/2014** (*or sooner if specified in the Office action*). For information regarding response time periods, see http://www.uspto.gov/trademarks/process/status/responsetime.jsp.

Do NOT hit "Reply" to this e-mail notification, or otherwise e-mail your response because the USPTO does NOT accept e-mails as responses to Office actions. Instead, the USPTO recommends that you respond online using the Trademark Electronic Application System (TEAS) response form located at http://www.uspto.gov/trademarks/teas/response_forms.jsp.

(3) QUESTIONS: For questions about the contents of the Office action itself, please contact the assigned trademark examining attorney. For *technical* assistance in accessing or viewing the Office action in the Trademark Status and Document Retrieval (TSDR) system, please e-mail TSDR@uspto.gov.

WARNING

Failure to file the required response by the applicable response deadline will result in the ABANDONMENT of your application. For more information regarding abandonment, see http://www.uspto.gov/trademarks/basics/abandon.jsp.

PRIVATE COMPANY SOLICITATIONS REGARDING YOUR APPLICATION: Private companies **not** associated with the USPTO are using information provided in trademark applications to mail or e-mail trademark-related solicitations. These companies often use names that closely resemble the USPTO and their solicitations may look like an official government document. Many solicitations require that you pay "fees."

Please carefully review all correspondence you receive regarding this application to make sure that you are responding to an official document from the USPTO rather than a private company solicitation. All official USPTO correspondence will be mailed only from the "United States Patent and Trademark Office" in Alexandria, VA; or sent by e-mail from the domain "@uspto.gov." For more information on how to handle private company solicitations, see http://www.uspto.gov/trademarks/solicitation_warnings.jsp.

PTO Form 1960 (Rev 9/2007)
OMB No. 0651-0050 (Exp. 07/31/2017)

Request for Reconsideration after Final Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	77873477
LAW OFFICE ASSIGNED	LAW OFFICE 111
MARK SECTION (no change)	
ARGUMENT(S)	

The final Office Action alleges that “magnesita” is a generic term. Applicant respectfully submits that “fir “refractory brick” are generic terms, but “magnesita” is not a generic term, as shown the Exhibits A to AJ t “Declaration About Generic Terms on Web Pages” filed herewith. These Exhibits show the terms used in t trade and industry.

The final Office Action “submits that the relevant public, in this case, are people who work in the refractory purchase refractory products on a regular basis.” This is contrary to the evidence in at least Exhibits AA to "Declaration About Generic Terms on Web Pages," which show refractory products sold by the well known Lowe’s, Home Depot, Walmart and Amazon. The goods and services are not limited to a particular group and are as follows:

Class 19: Refractory products not made primarily of metal, namely, refractory bricks, refractory m patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refracto furnace patching and repair mixes

Class 37: Providing information via a global computer network on constructing, maintaining, and r refractory apparatus using refractory products

The final Office Action states that “the English translation of [sic, MAGNESITA is] MAGNESITE or MA Applicant submits that the meaning of “magnesita” should be evaluated on the basis of the definition previ from the Merriam-Webster Unabridged Dictionary (online, 2014). The use of a translation is inappropriate unjustified by current case law.

The use of the translations in the final Office Action, rather than the English meaning of “magnesita,” is arl capricious and abuse of discretion, in view of (1) Ryan, Camille, “Language Use in the United States: 2011 Community Survey Reports, U.S. Dept. of Commerce, Census Bureau (Aug. 2013), and (2) Shin, Hyon B.,

"Language Projections: 2010 to 2020," Federal Forecasters Conference, U.S. Dept. of Commerce, Census I
21, 2011). A copy of each is submitted herewith. The majority of U.S. customers are fluent only in Englisl

The use of the translations in the final Office Action, rather than the English meaning of "magnesita," is arl
capricious and an abuse of discretion in view of the North American Free Trade Agreement Implementatio
3450, Public Law 103-182 (Dec. 8, 1993). A copy is submitted herewith. The North American Free Trade
Implementation Act expressly refers to "The general negotiating objectives of the United States under this
obtain— ... (G) adequate and effective protection of intellectual property rights of United States persons, ar
equitable market access for United States persons that rely upon intellectual property protection;" (see Sect
108(b)(5)(G) on page 11). The Canadian Intellectual Property Office has issued a registration of Applican
the U.S. Patent and Trademark Office currently refuses to do so.

Applicant submits that the application should be approved for registration.

EVIDENCE SECTION	
EVIDENCE FILE NAME(S)	
ORIGINAL PDF FILE	evi_5024695157-20141217204308860492_._ation_About_Generic_Terms_on_Web_Pa 15_.77873477.pdf
CONVERTED PDF FILE(S) (15 pages)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0002.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0003.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0004.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0005.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0006.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0007.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0008.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0009.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0010.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0011.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0012.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0013.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0014.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0015.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0016.JPG
ORIGINAL PDF FILE	evi_5024695157-20141217204308860492_._tion_About_Generic_Terms_on_Web_Pag 30_.77873477.pdf
CONVERTED	

PDF FILE(S) (15 pages)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0017.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0018.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0019.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0020.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0021.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0022.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0023.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0024.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0025.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0026.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0027.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0028.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0029.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0030.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0031.JPG
ORIGINAL PDF FILE	evi_5024695157-20141217204308860492_._tion_About_Generic_Terms_on_Web_Pag 44_.77873477.pdf
CONVERTED PDF FILE(S) (14 pages)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0032.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0033.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0034.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0035.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0036.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0037.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0038.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0039.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0040.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0041.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0042.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0043.JPG

	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0044.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0045.JPG
ORIGINAL PDF FILE	evi_5024695157-20141217204308860492_._y_Reports__U.S._Dept._of_Commerce__Census_Bureau__A
CONVERTED PDF FILE(S) (16 pages)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0046.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0047.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0048.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0049.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0050.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0051.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0052.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0053.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0054.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0055.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0056.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0057.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0058.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0059.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0060.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0061.JPG
ORIGINAL PDF FILE	evi_5024695157-20141217204308860492_._rence__U.S._Dept._of_Commerce__Census_Bureau__Apr._
CONVERTED PDF FILE(S) (12 pages)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0062.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0063.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0064.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0065.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0066.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0067.JPG

	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0068.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0069.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0070.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0071.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0072.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0073.JPG
ORIGINAL PDF FILE	evi_5024695157-20141217204308860492_.__Agreement_Implementation_Act__Pub.L 182__Dec._8__1993_.pdf
CONVERTED PDF FILE(S) (169 pages)	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0074.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0075.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0076.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0077.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0078.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0079.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0080.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0081.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0082.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0083.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0084.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0085.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0086.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0087.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0088.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0089.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0090.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0091.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0092.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0093.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0094.JPG

	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0095.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0096.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0097.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0098.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0099.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0100.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0101.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0102.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0103.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0104.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0105.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0106.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0107.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0108.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0109.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0110.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0111.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0112.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0113.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0114.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0115.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0116.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0117.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0118.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0119.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0120.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0121.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0122.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0123.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0124.JPG

	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0125.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0126.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0127.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0128.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0129.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0130.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0131.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0132.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0133.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0134.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0135.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0136.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0137.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0138.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0139.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0140.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0141.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0142.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0143.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0144.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0145.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0146.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0147.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0148.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0149.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0150.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0151.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0152.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0153.JPG

	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0154.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0155.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0156.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0157.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0158.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0159.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0160.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0161.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0162.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0163.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0164.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0165.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0166.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0167.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0168.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0169.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0170.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0171.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0172.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0173.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0174.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0175.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0176.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0177.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0178.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0179.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0180.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0181.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0182.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0183.JPG

	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0184.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0185.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0186.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0187.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0188.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0189.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0190.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0191.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0192.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0193.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0194.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0195.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0196.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0197.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0198.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0199.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0200.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0201.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0202.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0203.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0204.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0205.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0206.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0207.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0208.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0209.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0210.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0211.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0212.JPG

	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0213.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0214.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0215.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0216.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0217.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0218.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0219.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0220.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0221.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0222.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0223.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0224.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0225.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0226.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0227.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0228.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0229.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0230.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0231.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0232.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0233.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0234.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0235.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0236.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0237.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0238.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0239.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0240.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0241.JPG
	\\TICRS\EXPORT16\IMAGEOUT16\778\734\77873477\xml21\RFR0242.JPG

DESCRIPTION OF EVIDENCE FILE	(1) Declaration About Generic Terms on Web Pages (in 3 parts due to limit on size of up meg); (2) Ryan, Camille, "Language Use in the United States - 2011"; (3) Shin, Hyon B. Projections - 2010 to 2020"; (4) North American Free Trade Agreement Implementation
SIGNATURE SECTION	
RESPONSE SIGNATURE	/Thomas J. Moore/
SIGNATORY'S NAME	Thomas J. Moore
SIGNATORY'S POSITION	Owner's Attorney, Va. Bar Member
SIGNATORY'S PHONE NUMBER	703-683-0500 x137
DATE SIGNED	12/17/2014
AUTHORIZED SIGNATORY	YES
CONCURRENT APPEAL NOTICE FILED	NO
FILING INFORMATION SECTION	
SUBMIT DATE	Wed Dec 17 21:23:46 EST 2014
TEAS STAMP	USPTO/RFR-50.246.95.157-2 0141217212346707340-77873 477-5005fc97d5d69cfbf4ddc ec63fdc7216ed5d2e474956c1 d08e123ab4f1d62f96e-N/A-N /A-20141217204308860492

PTO Form 1960 (Rev 9/2007)
OMB No. 0651-0050 (Exp. 07/31/2017)

Request for Reconsideration after Final Action

To the Commissioner for Trademarks:

Application serial no. **77873477** MAGNESITA has been amended as follows:

ARGUMENT(S)
In response to the substantive refusal(s), please note the following:

The final Office Action alleges that "magnesita" is a generic term. Applicant respectfully submits that

“fire brick” and “refractory brick” are generic terms, but “magnesita” is not a generic term, as shown the Exhibits A to AJ to the “Declaration About Generic Terms on Web Pages” filed herewith. These Exhibits show the terms used in the relevant trade and industry.

The final Office Action “submits that the relevant public, in this case, are people who work in the refractory industry and purchase refractory products on a regular basis.” This is contrary to the evidence in at least Exhibits AA to AE to the "Declaration About Generic Terms on Web Pages," which show refractory products sold by the well known retailers Lowe’s, Home Depot, Walmart and Amazon. The goods and services are not limited to a particular group of customers, and are as follows:

> Class 19: Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mixes

> Class 37: Providing information via a global computer network on constructing, maintaining, and repairing refractory apparatus using refractory products

The final Office Action states that “the English translation of [sic, MAGNESITA is] MAGNESITE or MAGNESIA.” Applicant submits that the meaning of “magnesita” should be evaluated on the basis of the definition previously filed from the Merriam-Webster Unabridged Dictionary (online, 2014). The use of a translation is inappropriate under, and unjustified by current case law.

The use of the translations in the final Office Action, rather than the English meaning of “magnesita,” is arbitrary and capricious and abuse of discretion, in view of (1) Ryan, Camille, “Language Use in the United States: 2011,” American Community Survey Reports, U.S. Dept. of Commerce, Census Bureau (Aug. 2013), and (2) Shin, Hyon B., et al., “Language Projections: 2010 to 2020,” Federal Forecasters Conference, U.S. Dept. of Commerce, Census Bureau (Apr. 21, 2011). A copy of each is submitted herewith. The majority of U.S. customers are fluent only in English.

The use of the translations in the final Office Action, rather than the English meaning of “magnesita,” is arbitrary and capricious and an abuse of discretion in view of the North American Free Trade Agreement Implementation Act, 103 H.R. 3450, Public Law 103-182 (Dec. 8, 1993). A copy is submitted herewith. The North American Free Trade Agreement Implementation Act expressly refers to “The general negotiating objectives of the United States under this section are to obtain— ... (G) adequate and effective protection of intellectual property rights of United States persons, and fair and equitable market access for United States persons that rely upon intellectual property protection;” (see Section 108(b)(5)(G) on page 11). The Canadian Intellectual Property Office has issued a registration of Applicant’s mark, but the U.S. Patent and Trademark Office currently refuses to do so.

Applicant submits that the application should be approved for registration.

EVIDENCE

Evidence in the nature of (1) Declaration About Generic Terms on Web Pages (in 3 parts due to limit on size of uploaded file to 5 meg); (2) Ryan, Camille, "Language Use in the United States - 2011"; (3) Shin,

Hyon B., "Language Projections - 2010 to 2020"; (4) North American Free Trade Agreement Implementation Act has been attached.
Original PDF file:
evi_5024695157-20141217204308860492_._ation_About_Generic_Terms_on_Web_Pages__pages_1-15_.77873477.pdf
Converted PDF file(s) (15 pages)
Evidence-1
Evidence-2
Evidence-3
Evidence-4
Evidence-5
Evidence-6
Evidence-7
Evidence-8
Evidence-9
Evidence-10
Evidence-11
Evidence-12
Evidence-13
Evidence-14
Evidence-15
Original PDF file:
evi_5024695157-20141217204308860492_._tion_About_Generic_Terms_on_Web_Pages__pages_16-30_.77873477.pdf
Converted PDF file(s) (15 pages)
Evidence-1
Evidence-2
Evidence-3
Evidence-4
Evidence-5
Evidence-6
Evidence-7
Evidence-8
Evidence-9
Evidence-10
Evidence-11
Evidence-12
Evidence-13
Evidence-14
Evidence-15
Original PDF file:
evi_5024695157-20141217204308860492_._tion_About_Generic_Terms_on_Web_Pages__pages_31-44_.77873477.pdf
Converted PDF file(s) (14 pages)
Evidence-1
Evidence-2
Evidence-3

Evidence-4
Evidence-5
Evidence-6
Evidence-7
Evidence-8
Evidence-9
Evidence-10
Evidence-11
Evidence-12
Evidence-13
Evidence-14
Original PDF file:
evi_5024695157-20141217204308860492_._y_Reports__U.S._Dept._of_Commerce__Census_Bureau__Aug._2013_.pdf
Converted PDF file(s) (16 pages)
Evidence-1
Evidence-2
Evidence-3
Evidence-4
Evidence-5
Evidence-6
Evidence-7
Evidence-8
Evidence-9
Evidence-10
Evidence-11
Evidence-12
Evidence-13
Evidence-14
Evidence-15
Evidence-16
Original PDF file:
evi_5024695157-20141217204308860492_._rence__U.S._Dept._of_Commerce__Census_Bureau__Apr._21__2011_.pdf
Converted PDF file(s) (12 pages)
Evidence-1
Evidence-2
Evidence-3
Evidence-4
Evidence-5
Evidence-6
Evidence-7
Evidence-8
Evidence-9
Evidence-10
Evidence-11
Evidence-12

Original PDF file:
evi_5024695157-20141217204308860492_.__Agreement_Implementation_Act__Pub.L._103-182__Dec._8__1993_.pdf
Converted PDF file(s) (169 pages)
Evidence-1
Evidence-2
Evidence-3
Evidence-4
Evidence-5
Evidence-6
Evidence-7
Evidence-8
Evidence-9
Evidence-10
Evidence-11
Evidence-12
Evidence-13
Evidence-14
Evidence-15
Evidence-16
Evidence-17
Evidence-18
Evidence-19
Evidence-20
Evidence-21
Evidence-22
Evidence-23
Evidence-24
Evidence-25
Evidence-26
Evidence-27
Evidence-28
Evidence-29
Evidence-30
Evidence-31
Evidence-32
Evidence-33
Evidence-34
Evidence-35
Evidence-36
Evidence-37
Evidence-38
Evidence-39
Evidence-40
Evidence-41
Evidence-42
Evidence-43

Evidence-44
Evidence-45
Evidence-46
Evidence-47
Evidence-48
Evidence-49
Evidence-50
Evidence-51
Evidence-52
Evidence-53
Evidence-54
Evidence-55
Evidence-56
Evidence-57
Evidence-58
Evidence-59
Evidence-60
Evidence-61
Evidence-62
Evidence-63
Evidence-64
Evidence-65
Evidence-66
Evidence-67
Evidence-68
Evidence-69
Evidence-70
Evidence-71
Evidence-72
Evidence-73
Evidence-74
Evidence-75
Evidence-76
Evidence-77
Evidence-78
Evidence-79
Evidence-80
Evidence-81
Evidence-82
Evidence-83
Evidence-84
Evidence-85
Evidence-86
Evidence-87
Evidence-88
Evidence-89
Evidence-90

Evidence-138
Evidence-139
Evidence-140
Evidence-141
Evidence-142
Evidence-143
Evidence-144
Evidence-145
Evidence-146
Evidence-147
Evidence-148
Evidence-149
Evidence-150
Evidence-151
Evidence-152
Evidence-153
Evidence-154
Evidence-155
Evidence-156
Evidence-157
Evidence-158
Evidence-159
Evidence-160
Evidence-161
Evidence-162
Evidence-163
Evidence-164
Evidence-165
Evidence-166
Evidence-167
Evidence-168
Evidence-169

SIGNATURE(S)
Request for Reconsideration Signature
Signature: /Thomas J. Moore/ Date: 12/17/2014
Signatory's Name: Thomas J. Moore
Signatory's Position: Owner's Attorney, Va. Bar Member

Signatory's Phone Number: 703-683-0500 x137

The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to

withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

The applicant is not filing a Notice of Appeal in conjunction with this Request for Reconsideration.

Serial Number: 77873477
Internet Transmission Date: Wed Dec 17 21:23:46 EST 2014
TEAS Stamp: USPTO/RFR-50.246.95.157-2014121721234670
7340-77873477-5005fc97d5d69cfbf4ddcec63f
dc7216ed5d2e474956c1d08e123ab4f1d62f96e-
N/A-N/A-20141217204308860492

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.:	**77873477**
Application Filing Date:	November 16, 2009
Mark:	Magnesita
Applicant:	Magnesita Refractories Company
Attorney Ref:	MAGN6002/TJM

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES

Commissioner for Trademarks
P.O. Box 1451
Alexandria, VA 22313-1451

Madam:

The undersigned, being hereby warned that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and may jeopardize the validity of the application or any registration resulting therefrom, declares that:

1. All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true.

2. I have conducted searches on the Internet for web pages that offer refractory products for sale in the United States.

3. The attached exhibits are based on these searches, and accurately reflect the web page at the address at the top, and at the date and time shown at the lower right of each exhibit.

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

4. The attached Exhibit A shows at least the top of a web page at the alliedmineral.com website. Allied Mineral Products appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic terms "castable refractories," and "precast refractory shapes." I did not observe any use of the term "magnesita" at this website.

5. The attached Exhibit B shows an image of a search for "magnesita" at the alliedmineral.com website.

6. The attached Exhibit C shows at least the top of a web page at the zircoa.com website. Zircoa appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "refractory brick." I did not observe any use of the term "magnesita" at this website.

7. The attached Exhibit D shows at least the top of a web page at the bnzmaterials.com website. BNZ Materials, Inc. appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "insulating firebrick." I did not observe any use of the term "magnesita" at this website.

8. The attached Exhibit E shows at least the top of a web page at the ssfbs.com website. Smith-Sharpe Fire Brick Supply appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "fire brick." I did not observe any use of the term "magnesita" at this website.

9. The attached Exhibit F shows at least the top of a web page at the alsey.com website. Alsey refractories co. appears to market refractory products. I reviewed at least a portion of the

website and observed use of the generic terms "firebrick," "mortar" and "castable." I did not observe any use of the term "magnesita" at this website.

10. The attached Exhibit G shows at least the top of a web page at the heatstoprefractorymortar.com website. Heat Stop appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic terms "refractory mortar" and "firebrick." I did not observe any use of the term "magnesita" at this website.

11. The attached Exhibit H shows at least the top of a web page at the axner.com website. Axner appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic terms "refractory brick" and "firebrick." I did not observe any use of the term "magnesita" at this website.

12. The attached Exhibit I shows at least the top of a web page at the firebrickengineers.com website. Fire Brick Engineers Company appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic terms "refractory products" and "fire brick." I did not observe any use of the term "magnesita" at this website.

13. The attached Exhibit J shows at least the top of a web page at the morganthermalceramics.com website. Morgan Advanced Materials appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic terms "fire brick," and "firebrick." I did not observe any use of the term "magnesita" at this website.

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

14. The attached Exhibit K shows an image of a search for "magnesita" at the morganthermalceramics.com website.

15. The attached Exhibit L shows at least the top of a web page at the ortonceramic.com website. Orton to market testing of refractory products. I reviewed at least a portion of the website and observed use of the generic terms "refractory shapes," "refractory brick" and "refractory materials." I did not observe any use of the term "magnesita" at this website.

16. The attached Exhibit M shows at least the top of a web page at the tflhouston.com website. TFL Incorporated appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic terms "firebrick," and "refractories." I did not observe any use of the term "magnesita" at this website.

17. The attached Exhibit N shows an image of a search for "magnesita" at the tflhouston.com website.

18. The attached Exhibit O shows at least the top of a web page at the hitempincusa.com website. Hi Temp Refractories to market refractory products. I reviewed at least a portion of the website and observed use of the generic terms "firebrick," and "castables." I did not observe any use of the term "magnesita" at this website.

19. The attached Exhibit P shows at least the top of a web page at the louisvillefirebrick.com website. Louisville Firebrick appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic terms "firebrick," and "refractory brick." I did not observe any use of the term "magnesita" at this website.

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

20. The attached Exhibit Q shows at least the top of a web page at the kandg.net website. K&G Industrial Services appears to market the installation of refractory products. I reviewed at least a portion of the website and observed use of the generic term "refractory brick." I did not observe any use of the term "magnesita" at this website.

21. The attached Exhibit R shows at least the top of a web page at the firebricks.com website. Firebricks appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "refractory bricks." I did not observe any use of the term "magnesita" at this website.

22. The attached Exhibit S shows at least the top of a web page at the elginbutler.com website. Elgin Butler appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "fire brick." I did not observe any use of the term "magnesita" at this website.

23. The attached Exhibit T shows at least the top of a web page at the larkinrefractory.com website. Larkin Refractory Solutions appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "fire brick." I did not observe any use of the term "magnesita" at this website.

24. The attached Exhibit U shows at least the top of the Terminology page at the larkinrefractory.com website. I observed use of the generic term "fire brick." I did not observe any use of the term "magnesita" at this website.

25. The attached Exhibit V shows at least the top of a web page at the vitcas.com website. Vitcas appears to market refractory products. I reviewed at least a portion of the website and

observed use of the generic terms "fire brick," and "firebrick." I did not observe any use of the term "magnesita" at this website.

26. The attached Exhibit W shows an image of a search for "magnesita" at the vitcas.com website.

27. The attached Exhibit X shows at least the top of a web page at the nockrefractories.com website. The Nock Refractories Company appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "fire brick." I did not observe any use of the term "magnesita" at this website.

28. The attached Exhibit Y shows at least the top of a web page at the nwironworks.com website. The Northwest Iron Works appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "fire brick." I did not observe any use of the term "magnesita" at this website.

29. The attached Exhibit Z shows at least the top of a web page at the miamistoneinstallers.com website. Miami Stone Installers.com appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic terms "firebrick" and "fire brick." I did not observe any use of the term "magnesita" at this website.

30. The attached Exhibit AA shows at least the top of a page at the lowes.com website. Lowe's appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "firebrick." I did not observe any use of the term "magnesita" at this website.

31. The attached Exhibit AB shows at least the top of a page at the homedepot.com website. The Home Depot appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "fire bricks." I did not observe any use of the term "magnesita" at this website.

32. The attached Exhibit AC shows at least the top of a page at the walmart.com website. Walmart appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic terms "fire brick" and "firebrick." I did not observe any use of the term "magnesita" at this website.

33. The attached Exhibit AD shows an image of a search for "magnesita" at the walmart.com website.

34. The attached Exhibit AE shows at least the top of a page at the amazon.com website. Amazon appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic terms "fire brick" and "firebrick." I did not observe any use of the term "magnesita" at this website.

35. The attached Exhibit AF shows at least the top of a page at the rescoproducts.com website. RESCO Products, Inc. appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "brick." I did not observe any use of the term "magnesita" at this website.

36. The attached Exhibit AG shows at least the top of a page at the vesuvius.com website. Vesuvius appears to market refractory products. I reviewed at least a portion of the website

and observed use of the generic term "brick." I did not observe any use of the term "magnesita" at this website.

37. The attached Exhibit AH shows at least the top of a page at the rhi-ag.com website. RHI appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "brick." I did not observe any use of the term "magnesita" at this website.

38. The attached Exhibit AI shows at least the top of a page at the hwr.com website. ANH Refractories appears to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "brick." I did not observe any use of the term "magnesita" at this website.

39. The attached Exhibit AJ shows at least the top of a page at the mineralstech.com website. Minerals Technology to market refractory products. I reviewed at least a portion of the website and observed use of the generic term "brick." I did not observe any use of the term "magnesita" at this website.

Respectfully signed,

Date: December 17, 2014

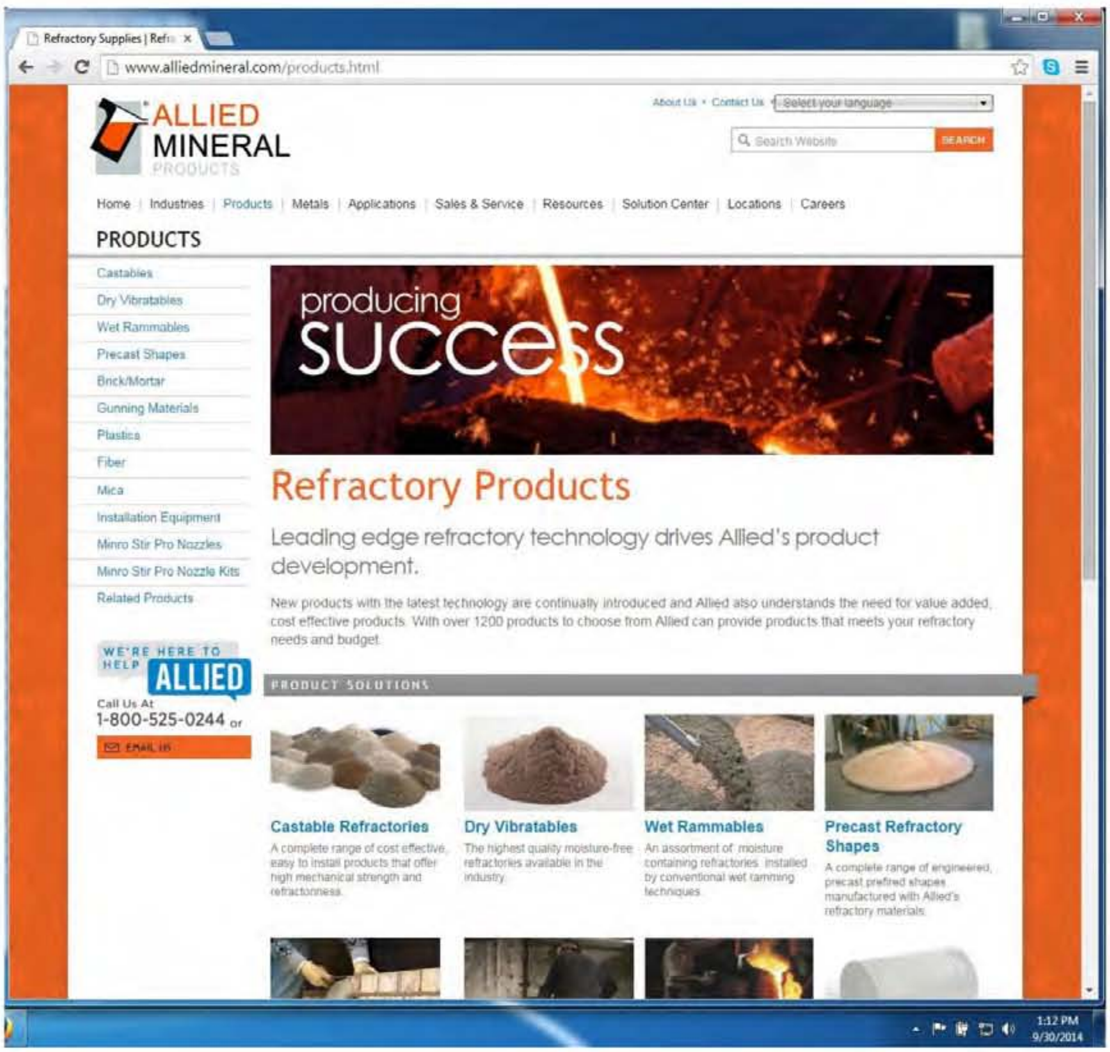
Thomas J. Moore

Thomas J. Moore
Owner's Attorney, Va. Bar Member

S:\Producer\tjm\ep\MAGN6002\2014-12-17 Declaration About Generic Terms on Web Pages.77873477.wpd

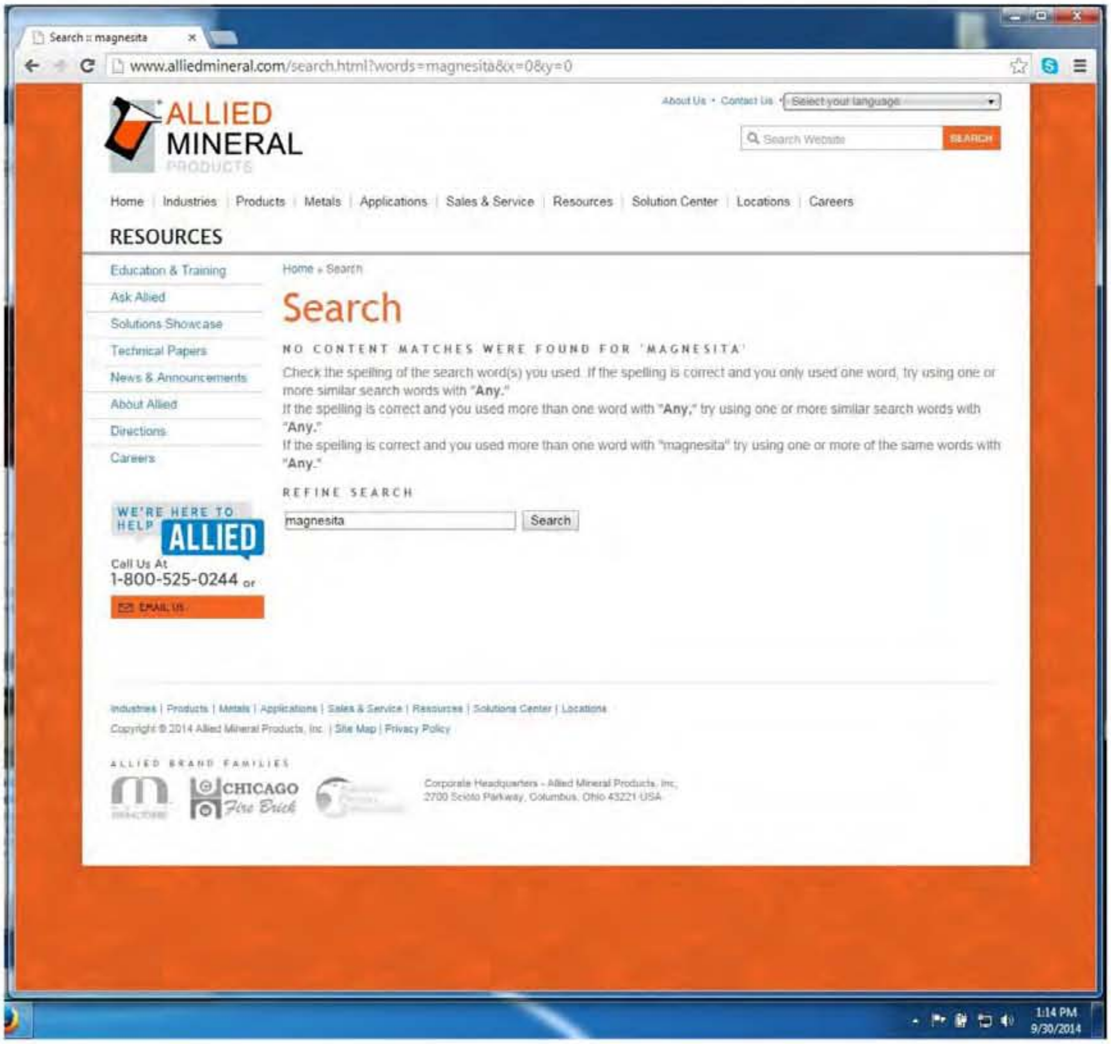
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit A



DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit B



DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

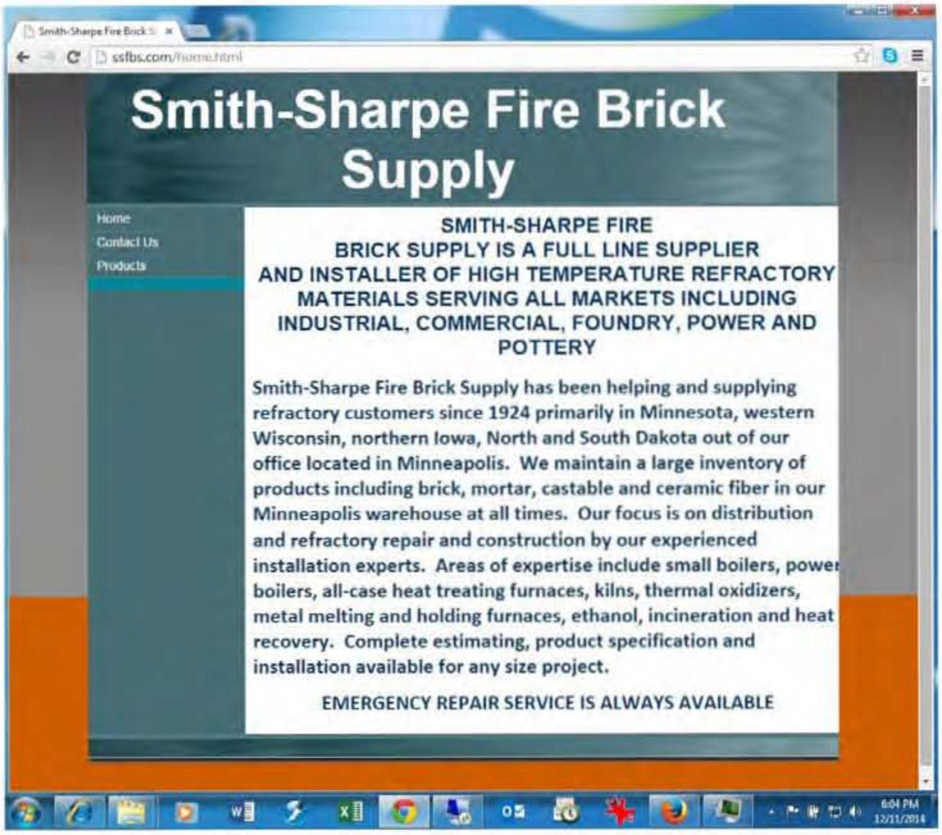
Exhibit C

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit D

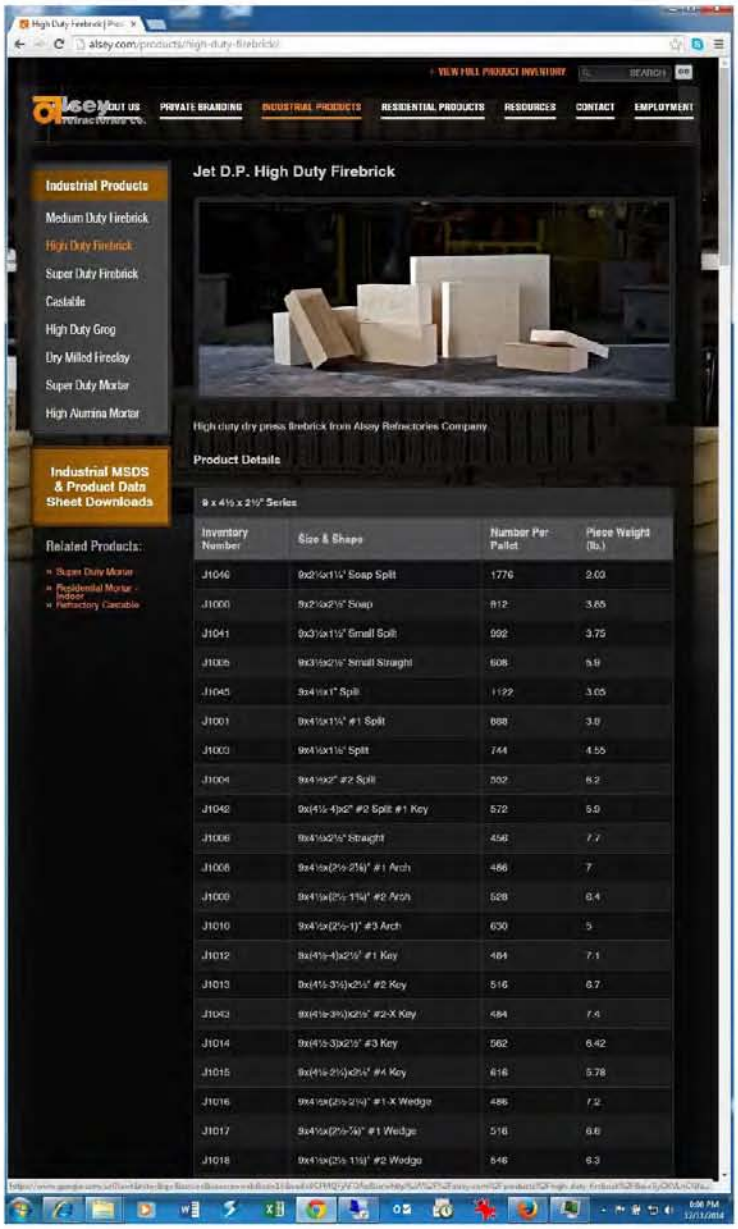
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit E



DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit F


alsey.com/products/high-duty-firebrick/

VIEW FULL PRODUCT INVENTORY

ABOUT US | PRIVATE BRANDING | INDUSTRIAL PRODUCTS | RESIDENTIAL PRODUCTS | RESOURCES | CONTACT | EMPLOYMENT

Industrial Products
- Medium Duty Firebrick
- High Duty Firebrick
- Super Duty Firebrick
- Castable
- High Duty Grog
- Dry Milled Fireclay
- Super Duty Mortar
- High Alumina Mortar

Industrial MSDS & Product Data Sheet Downloads

Related Products:
- Super Duty Mortar
- Residential Mortar - Indoor
- Refractory Castable

Jet D.P. High Duty Firebrick

High duty dry press firebrick from Alsey Refractories Company

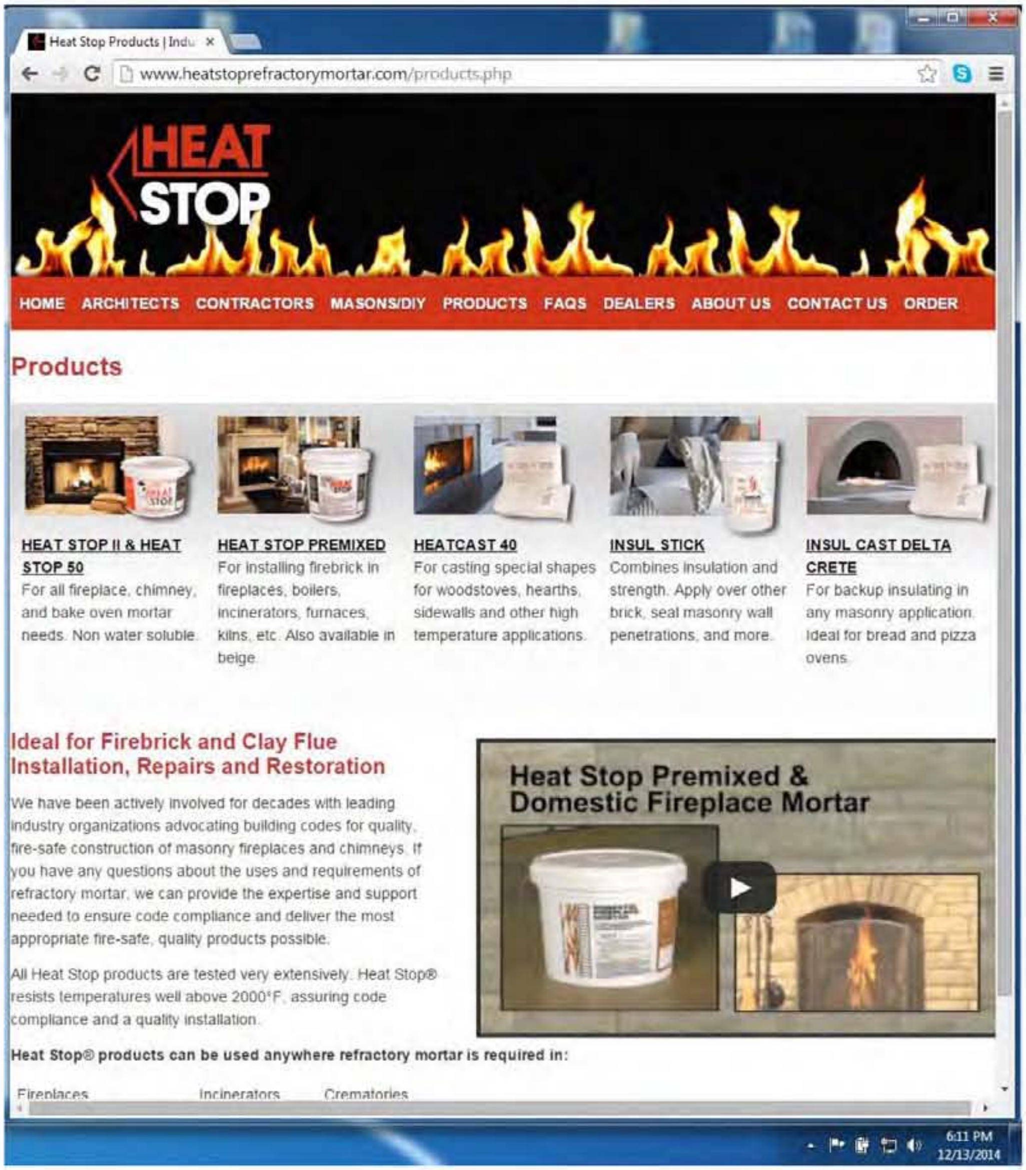
Product Details

9 x 4½ x 2½" Series

Inventory Number	Size & Shape	Number Per Pallet	Piece Weight (lb.)
J1046	9x2¼x1¼" Soap Split	1776	2.03
J1000	9x2¼x2½" Soap	812	3.65
J1041	9x3½x1½" Small Split	992	3.75
J1005	9x3½x2½" Small Straight	608	5.9
J1045	9x4½x1" Split	1122	3.05
J1001	9x4½x1¼" #1 Split	888	3.8
J1003	9x4½x1½" Split	744	4.55
J1004	9x4½x2" #2 Split	552	6.2
J1042	9x(4½-4)x2" #2 Split #1 Key	572	5.9
J1006	9x4½x2½" Straight	456	7.7
J1008	9x4½x(2½-2⅛)" #1 Arch	486	7
J1009	9x4½x(2½-1⅞)" #2 Arch	528	6.4
J1010	9x4½x(2½-1)" #3 Arch	630	5
J1012	9x(4½-4)x2½" #1 Key	484	7.1
J1013	9x(4½-3½)x2½" #2 Key	516	6.7
J1043	9x(4½-3¾)x2½" #2-X Key	484	7.4
J1014	9x(4½-3)x2½" #3 Key	562	6.42
J1015	9x(4½-2½)x2½" #4 Key	616	5.78
J1016	9x4½x(2½-2¼)" #1-X Wedge	486	7.2
J1017	9x4½x(2½-⅞)" #1 Wedge	516	6.6
J1018	9x4½x(2½-1½)" #2 Wedge	546	6.3

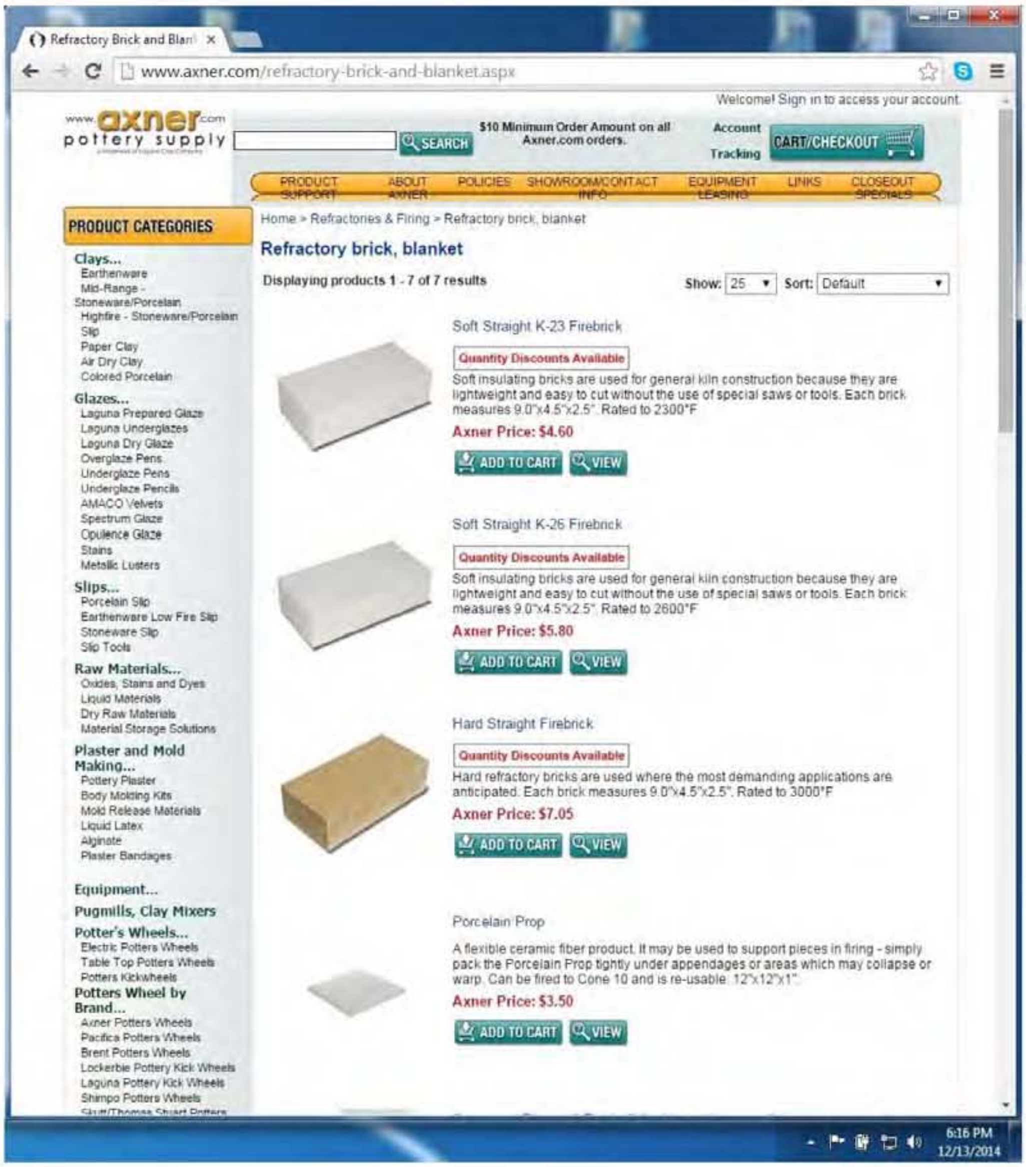
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit G



DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit H

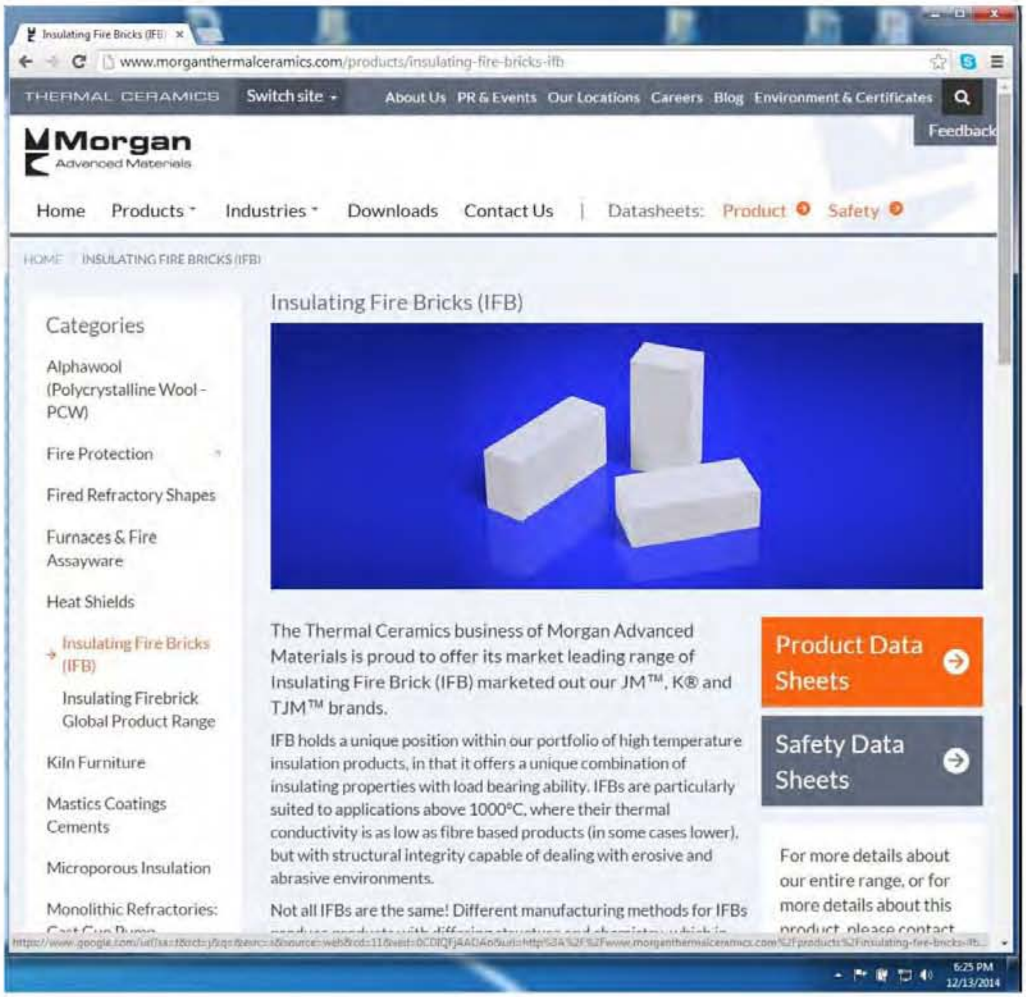


DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit I

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

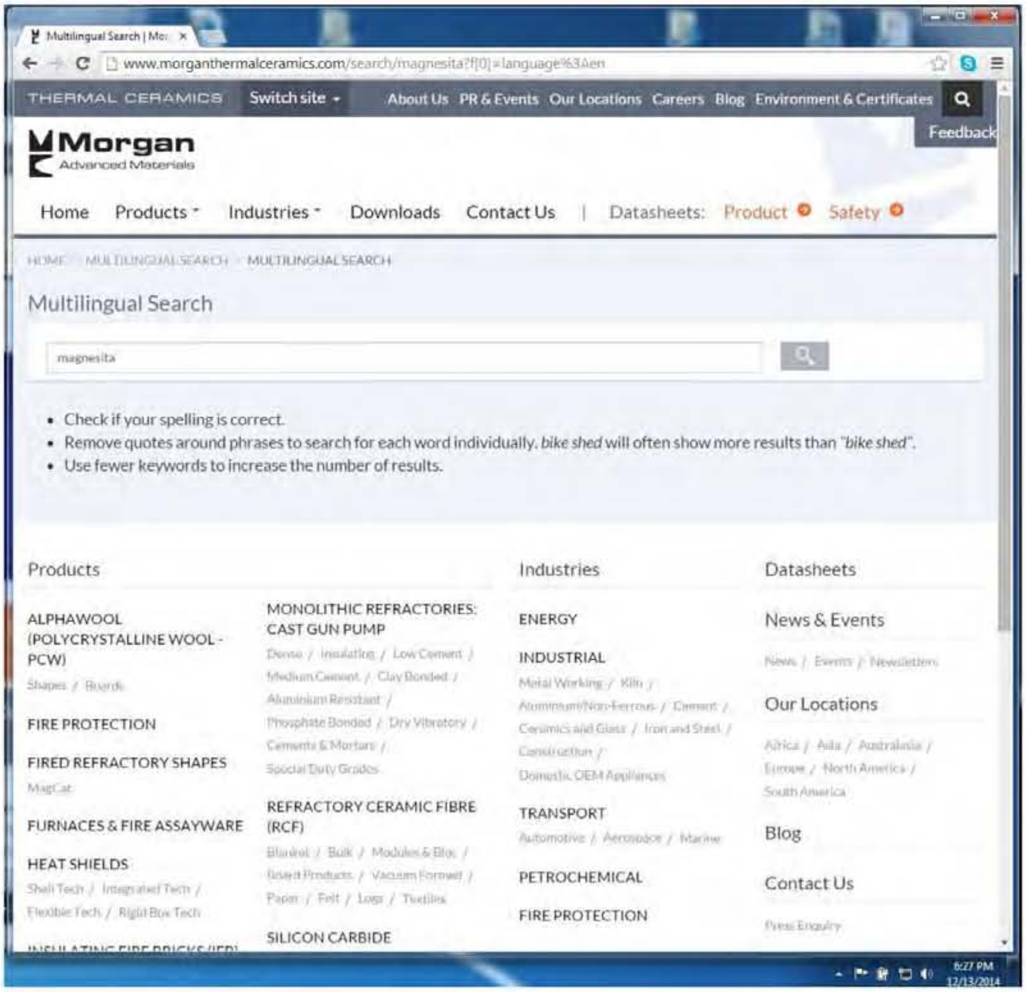
Exhibit J



Appx484

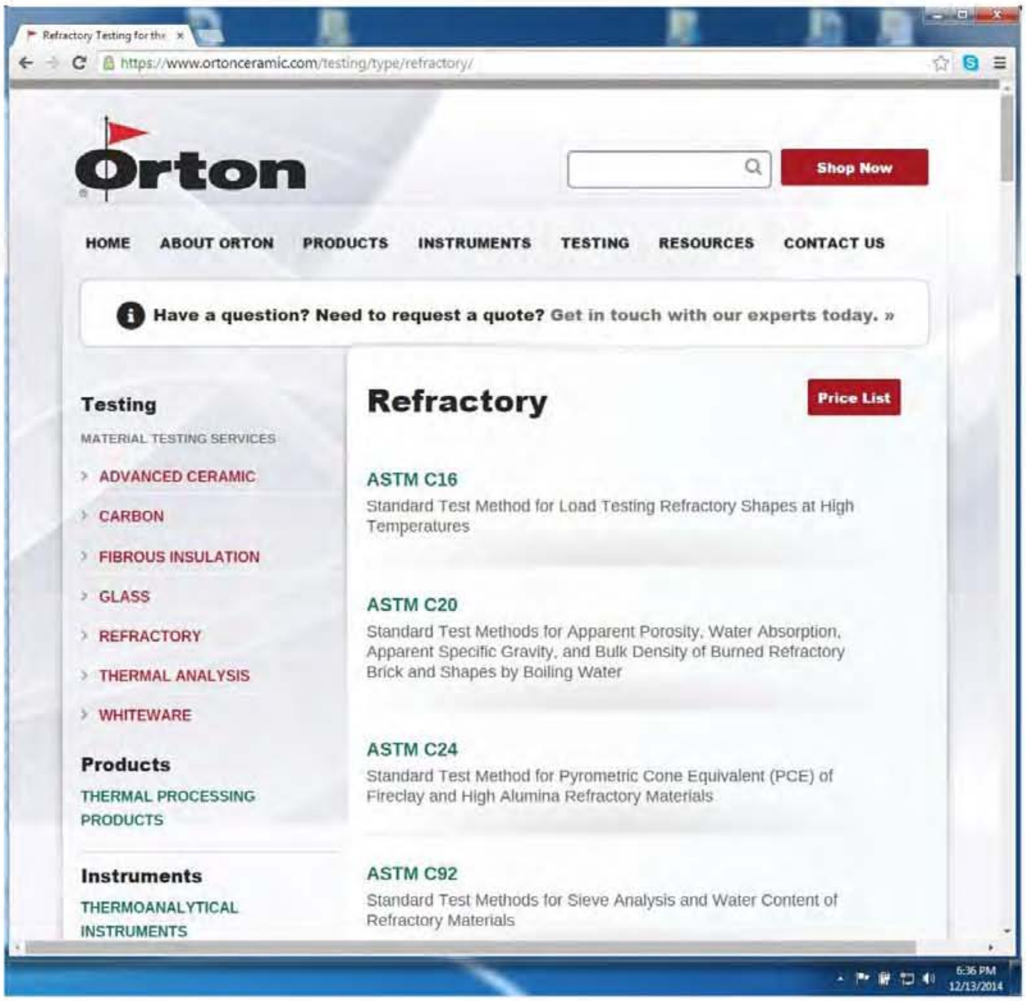
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit K



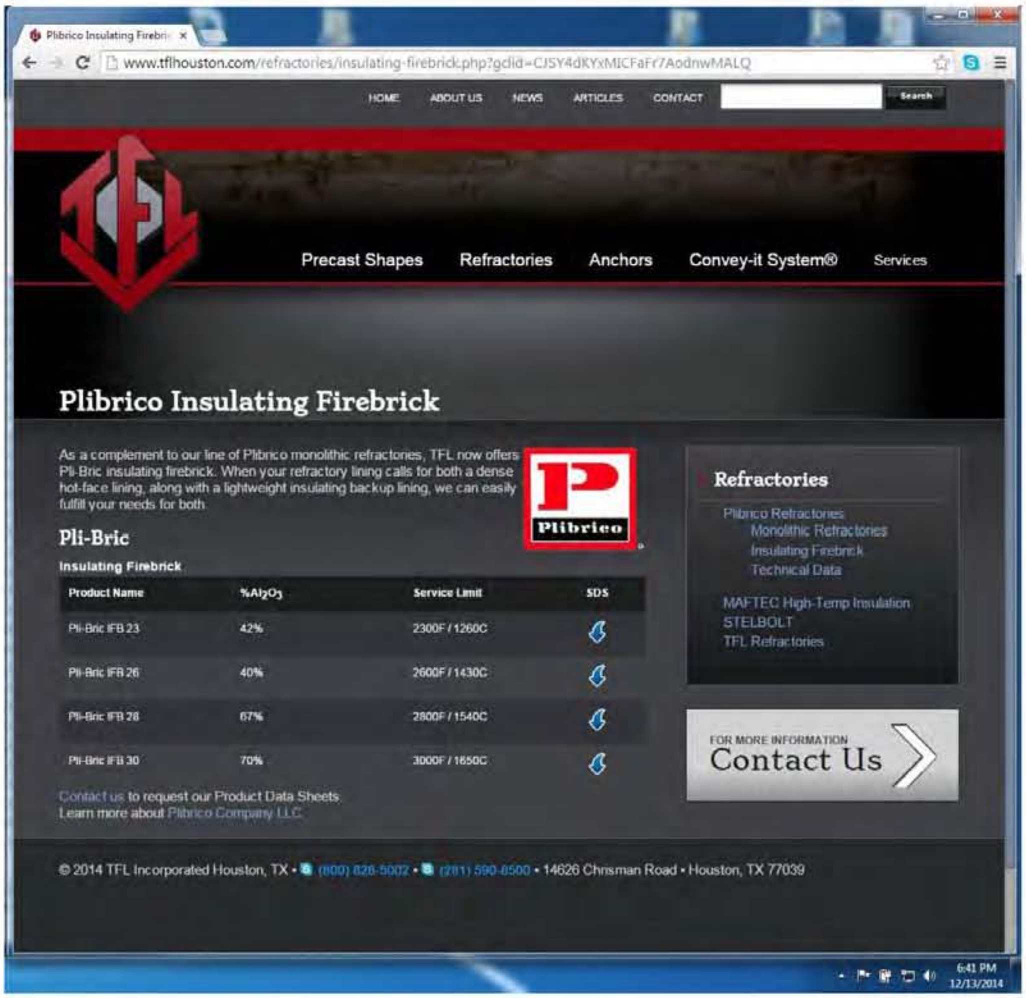
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit L



DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit M



Plibrico Insulating Firebri
www.tflhouston.com/refractories/insulating-firebrick.php?gclid=CJSY4dKYxMICFaFr7AodnwMALQ

HOME ABOUT US NEWS ARTICLES CONTACT Search

Precast Shapes Refractories Anchors Convey-it System® Services

Plibrico Insulating Firebrick

As a complement to our line of Plibrico monolithic refractories, TFL now offers Pli-Bric insulating firebrick. When your refractory lining calls for both a dense hot-face lining, along with a lightweight insulating backup lining, we can easily fulfill your needs for both.

Plibrico

Pli-Bric

Insulating Firebrick

Product Name	%Al_2O_3	Service Limit	SDS
Pli-Bric IFB 23	42%	2300F / 1260C	
Pli-Bric IFB 26	40%	2600F / 1430C	
Pli-Bric IFB 28	67%	2800F / 1540C	
Pli-Bric IFB 30	70%	3000F / 1650C	

Contact us to request our Product Data Sheets
Learn more about Plibrico Company LLC

Refractories

Plibrico Refractories
Monolithic Refractories
Insulating Firebrick
Technical Data

MAFTEC High-Temp Insulation
STELBOLT
TFL Refractories

FOR MORE INFORMATION
Contact Us

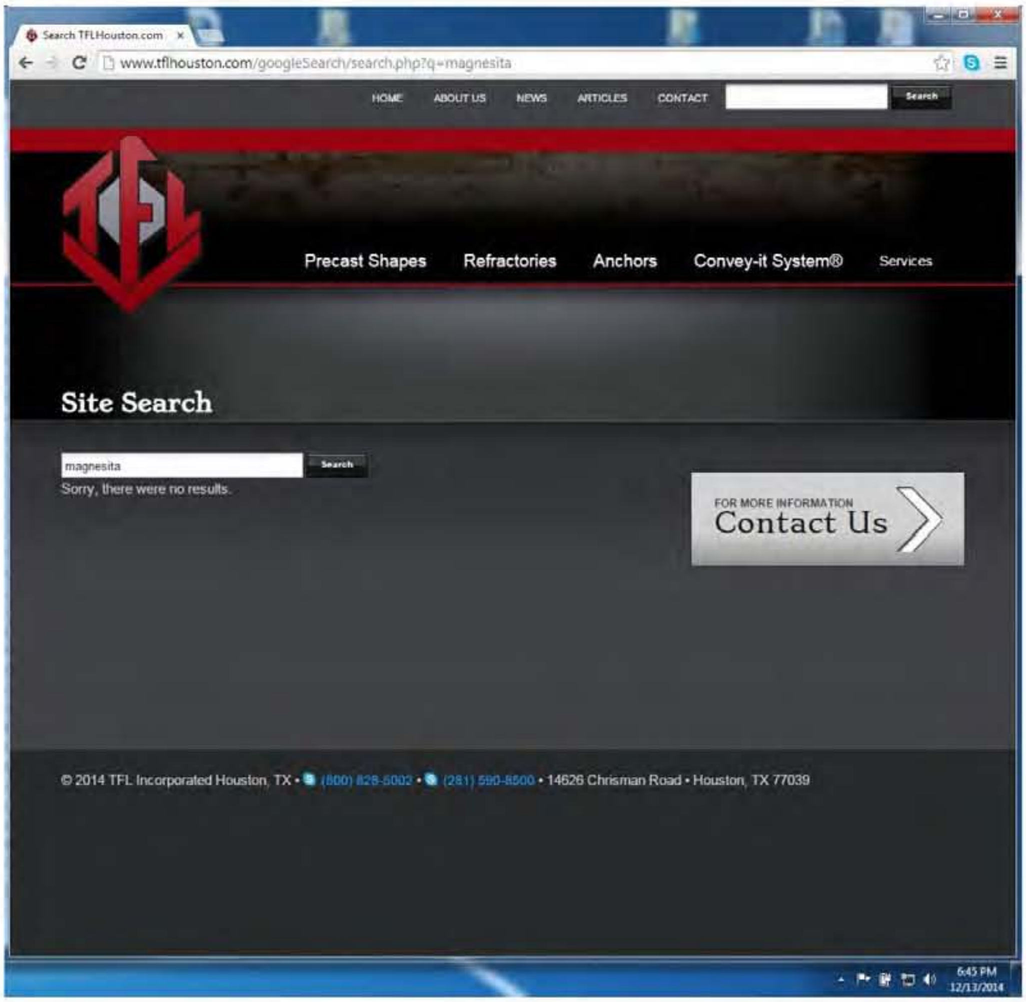
© 2014 TFL Incorporated Houston, TX • (800) 828-5002 • (281) 590-6500 • 14626 Chrisman Road • Houston, TX 77039

6:41 PM
12/13/2014

-21-

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit N

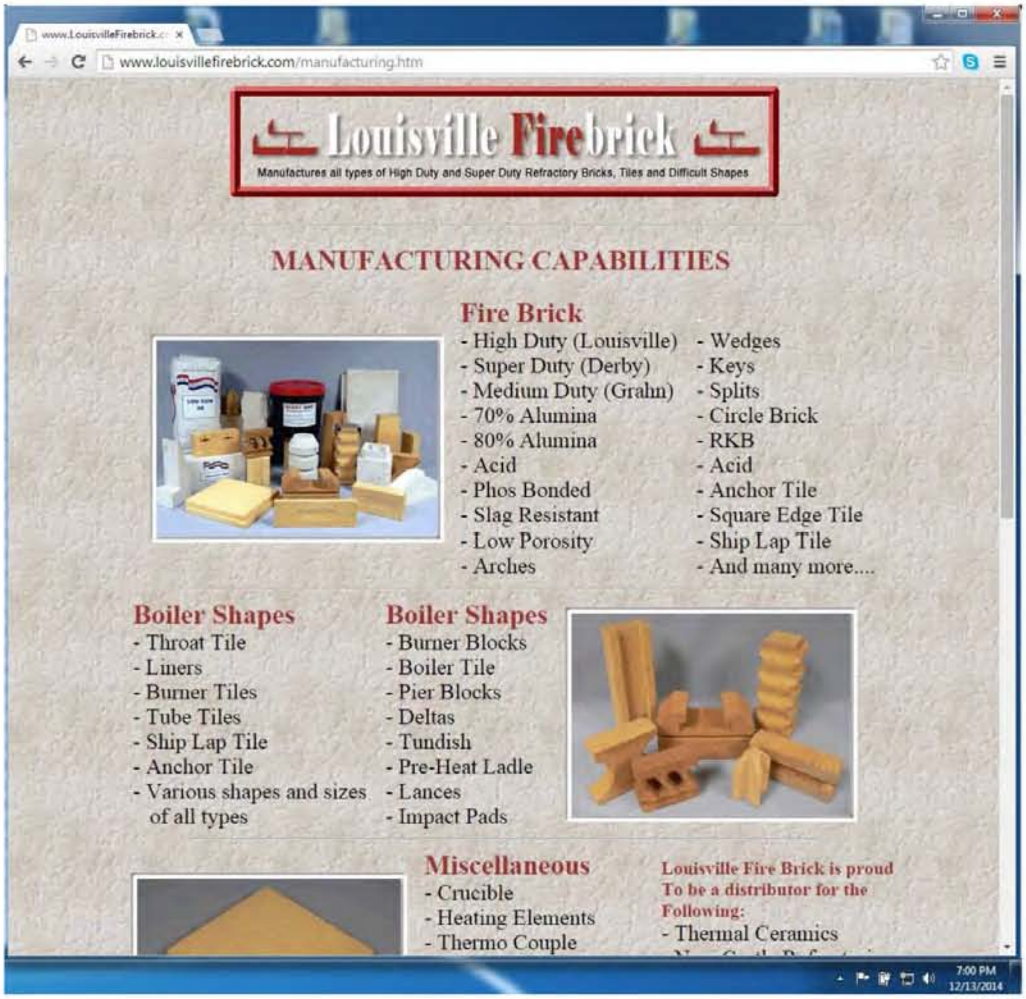


DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit O

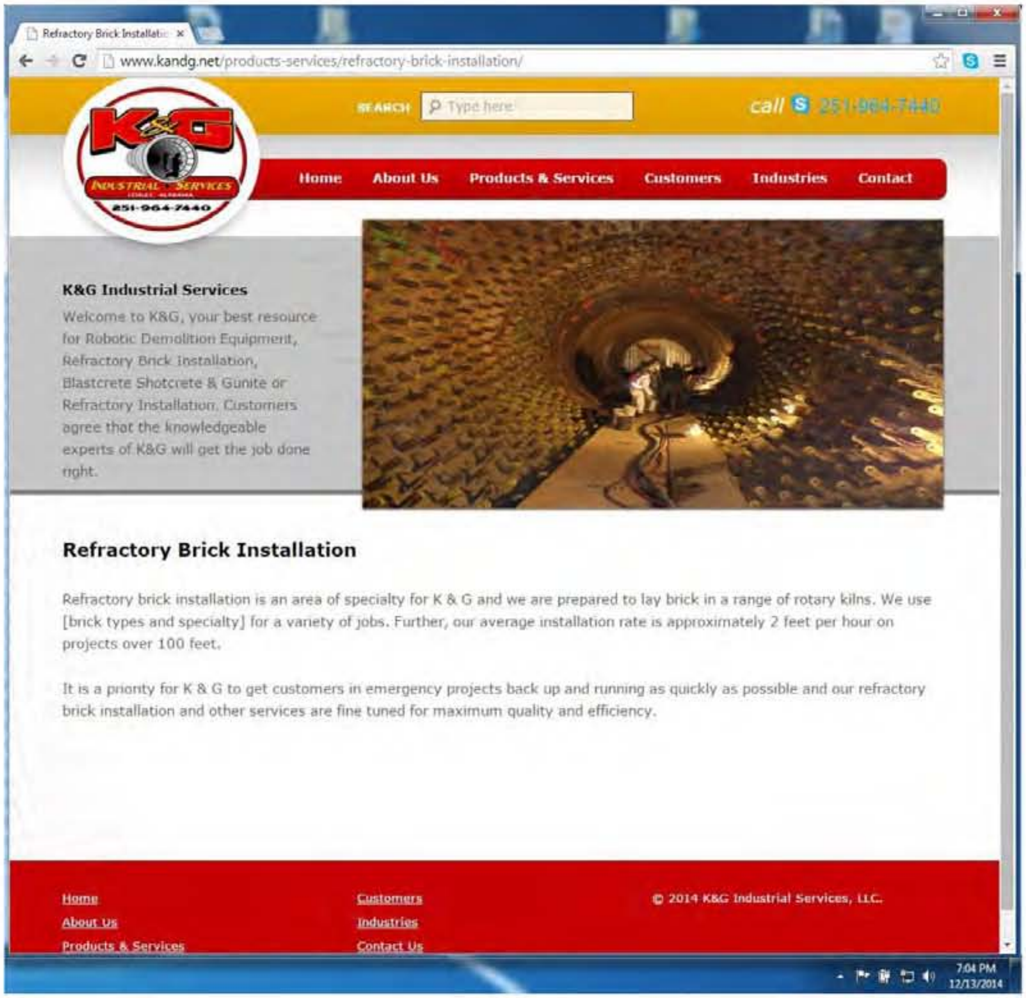
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit P



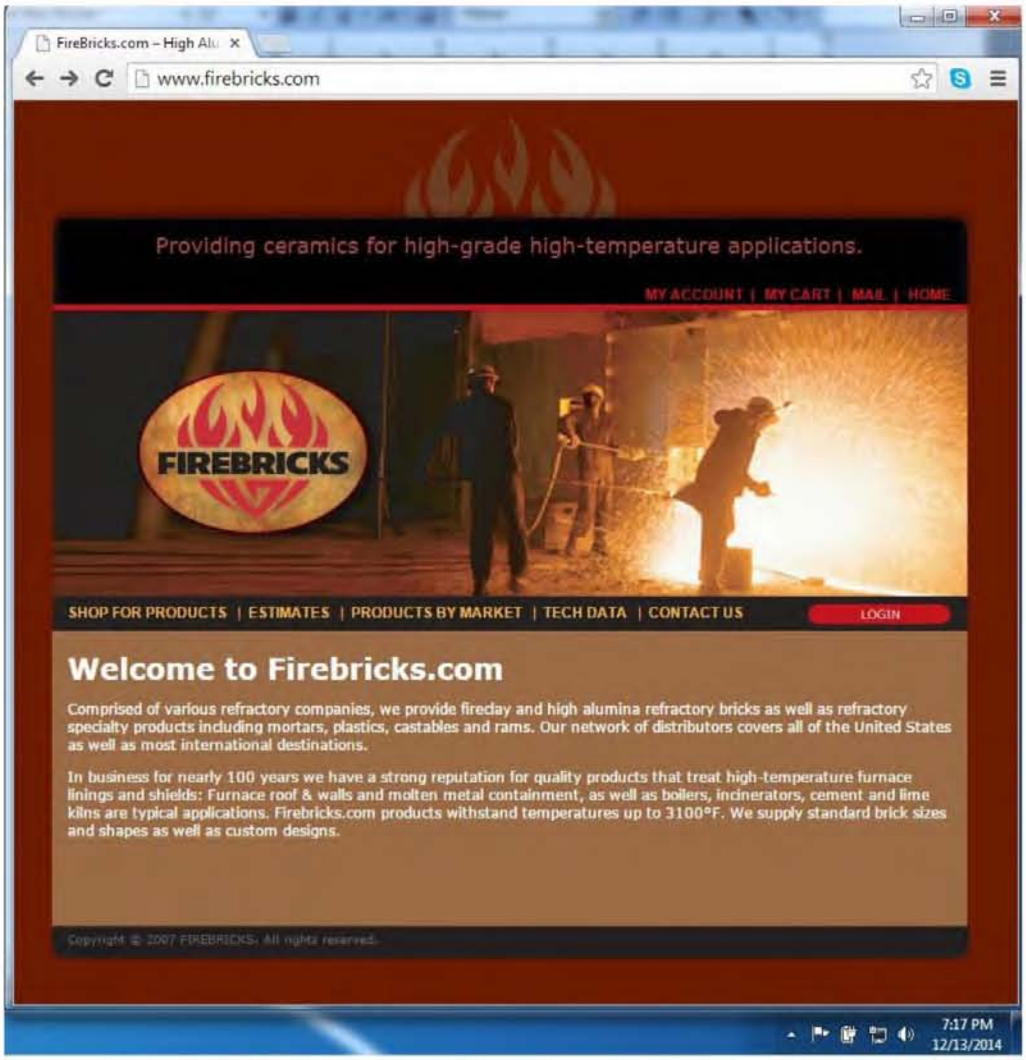
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit Q



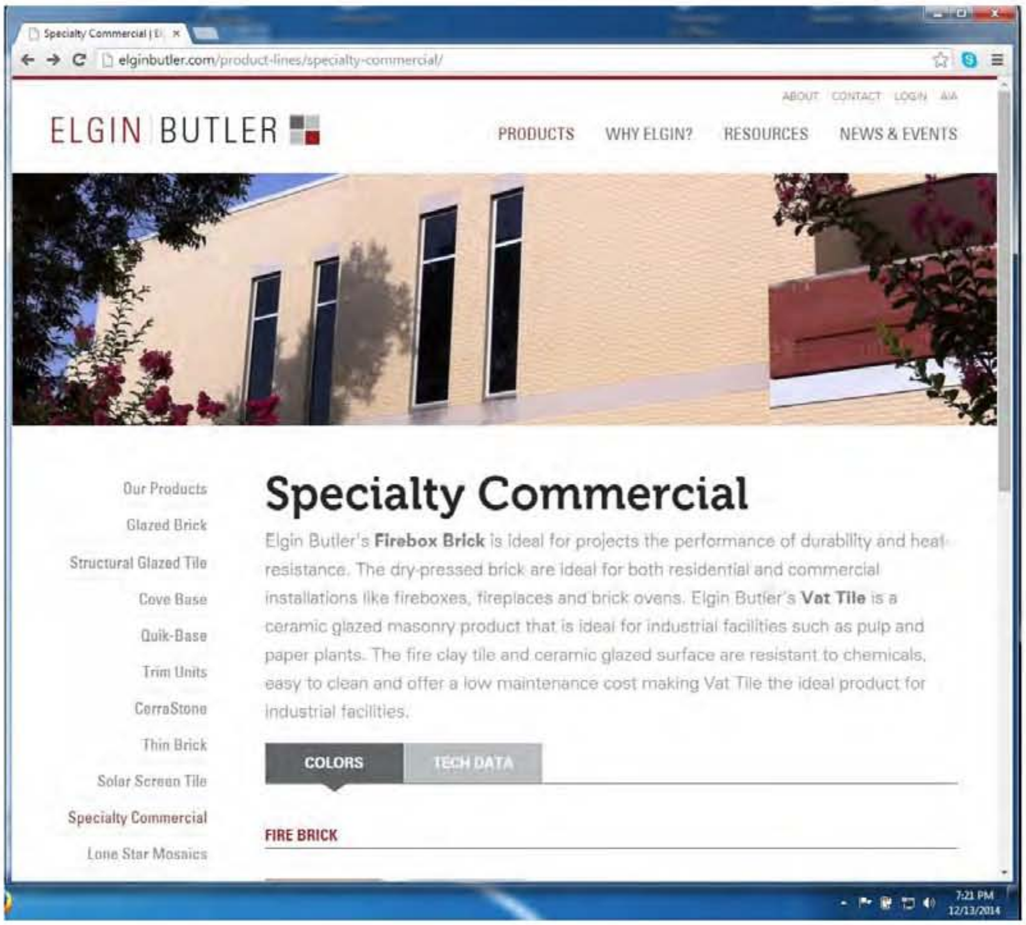
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit R



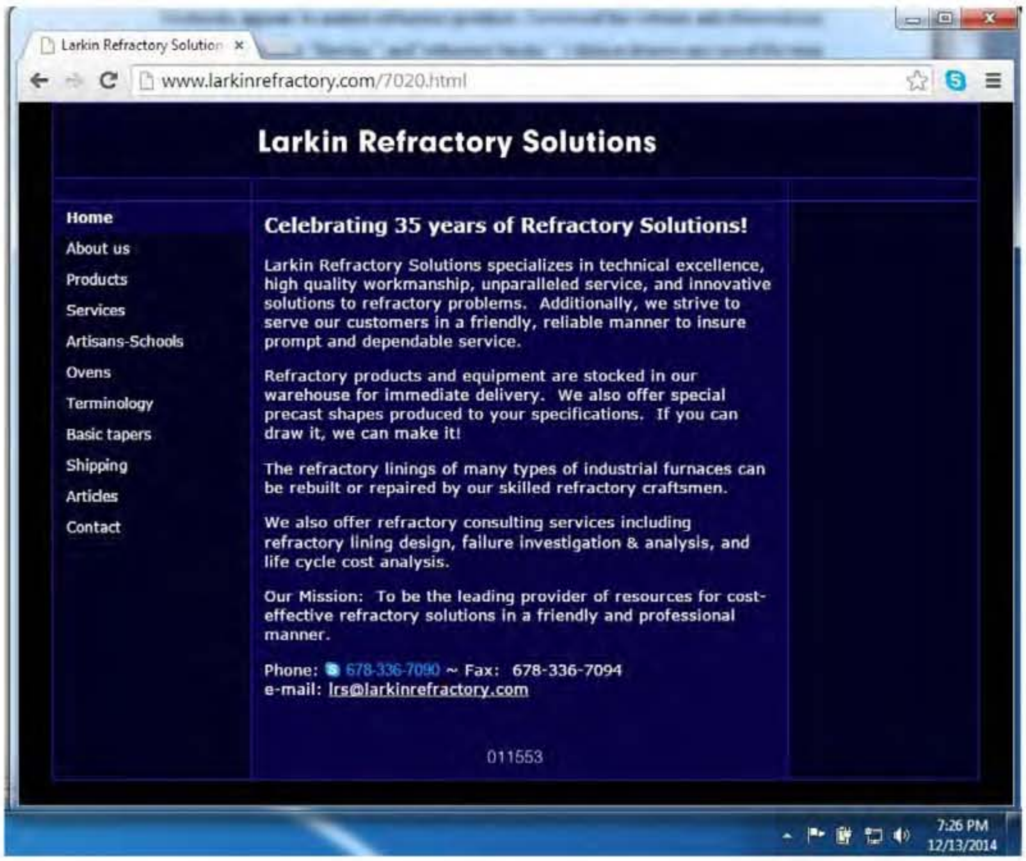
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit S



DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit T



Larkin Refractory Solution ×

www.larkinrefractory.com/7020.html

Larkin Refractory Solutions

- Home
- About us
- Products
- Services
- Artisans-Schools
- Ovens
- Terminology
- Basic tapers
- Shipping
- Articles
- Contact

Celebrating 35 years of Refractory Solutions!

Larkin Refractory Solutions specializes in technical excellence, high quality workmanship, unparalleled service, and innovative solutions to refractory problems. Additionally, we strive to serve our customers in a friendly, reliable manner to insure prompt and dependable service.

Refractory products and equipment are stocked in our warehouse for immediate delivery. We also offer special precast shapes produced to your specifications. If you can draw it, we can make it!

The refractory linings of many types of industrial furnaces can be rebuilt or repaired by our skilled refractory craftsmen.

We also offer refractory consulting services including refractory lining design, failure investigation & analysis, and life cycle cost analysis.

Our Mission: To be the leading provider of resources for cost-effective refractory solutions in a friendly and professional manner.

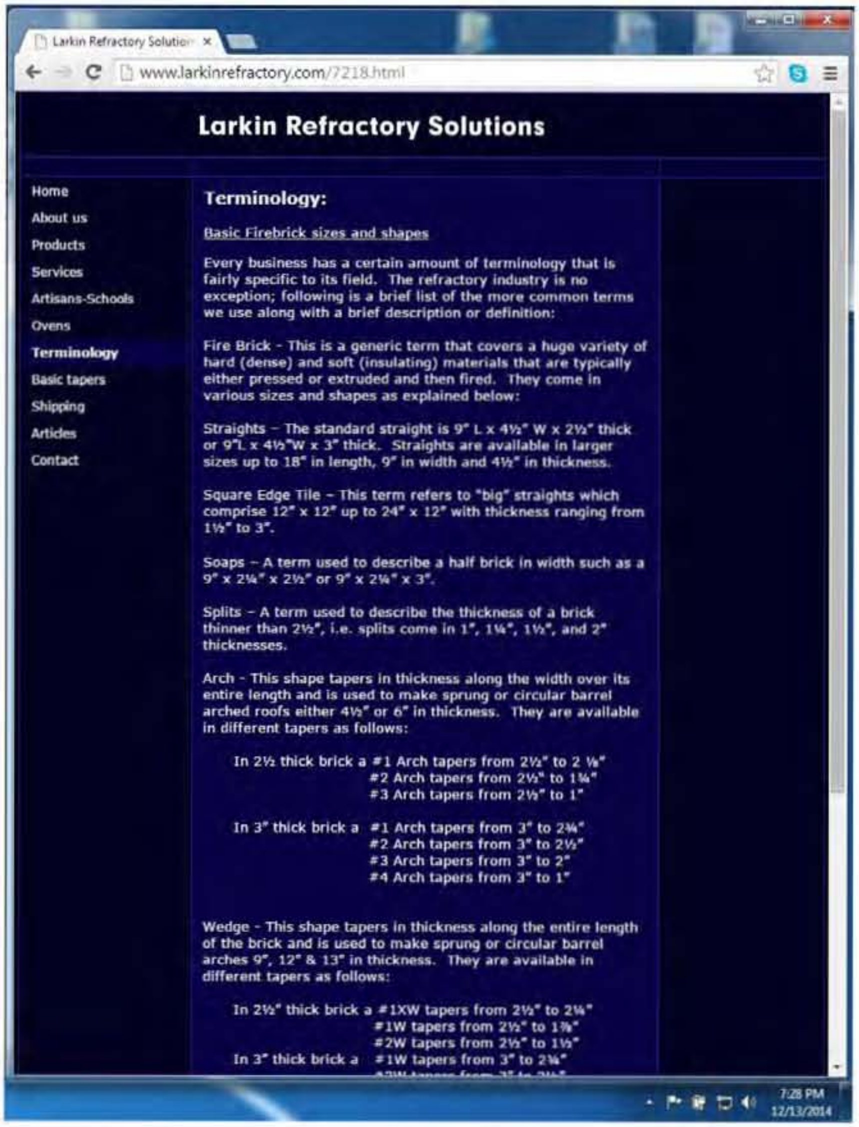
Phone: 678-336-7090 ~ Fax: 678-336-7094
e-mail: lrs@larkinrefractory.com

011553

7:26 PM
12/13/2014

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit U



Larkin Refractory Solution ×

www.larkinrefractory.com/7218.html

Larkin Refractory Solutions

Home
About us
Products
Services
Artisans-Schools
Ovens
Terminology
Basic tapers
Shipping
Articles
Contact

Terminology:

Basic Firebrick sizes and shapes

Every business has a certain amount of terminology that is fairly specific to its field. The refractory industry is no exception; following is a brief list of the more common terms we use along with a brief description or definition:

Fire Brick - This is a generic term that covers a huge variety of hard (dense) and soft (insulating) materials that are typically either pressed or extruded and then fired. They come in various sizes and shapes as explained below:

Straights – The standard straight is 9" L x 4½" W x 2½" thick or 9"L x 4½"W x 3" thick. Straights are available in larger sizes up to 18" in length, 9" in width and 4½" in thickness.

Square Edge Tile – This term refers to "big" straights which comprise 12" x 12" up to 24" x 12" with thickness ranging from 1½" to 3".

Soaps – A term used to describe a half brick in width such as a 9" x 2¼" x 2½" or 9" x 2¼" x 3".

Splits – A term used to describe the thickness of a brick thinner than 2½", i.e. splits come in 1", 1¼", 1½", and 2" thicknesses.

Arch - This shape tapers in thickness along the width over its entire length and is used to make sprung or circular barrel arched roofs either 4½" or 6" in thickness. They are available in different tapers as follows:

In 2½ thick brick a #1 Arch tapers from 2½" to 2 ⅛"
#2 Arch tapers from 2½" to 1¾"
#3 Arch tapers from 2½" to 1"

In 3" thick brick a #1 Arch tapers from 3" to 2¾"
#2 Arch tapers from 3" to 2½"
#3 Arch tapers from 3" to 2"
#4 Arch tapers from 3" to 1"

Wedge - This shape tapers in thickness along the entire length of the brick and is used to make sprung or circular barrel arches 9", 12" & 13" in thickness. They are available in different tapers as follows:

In 2½" thick brick a #1XW tapers from 2½" to 2¼"
#1W tapers from 2½" to 1⅞"
#2W tapers from 2½" to 1½"
In 3" thick brick a #1W tapers from 3" to 2¾"

7:28 PM
12/13/2014

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit V

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit W

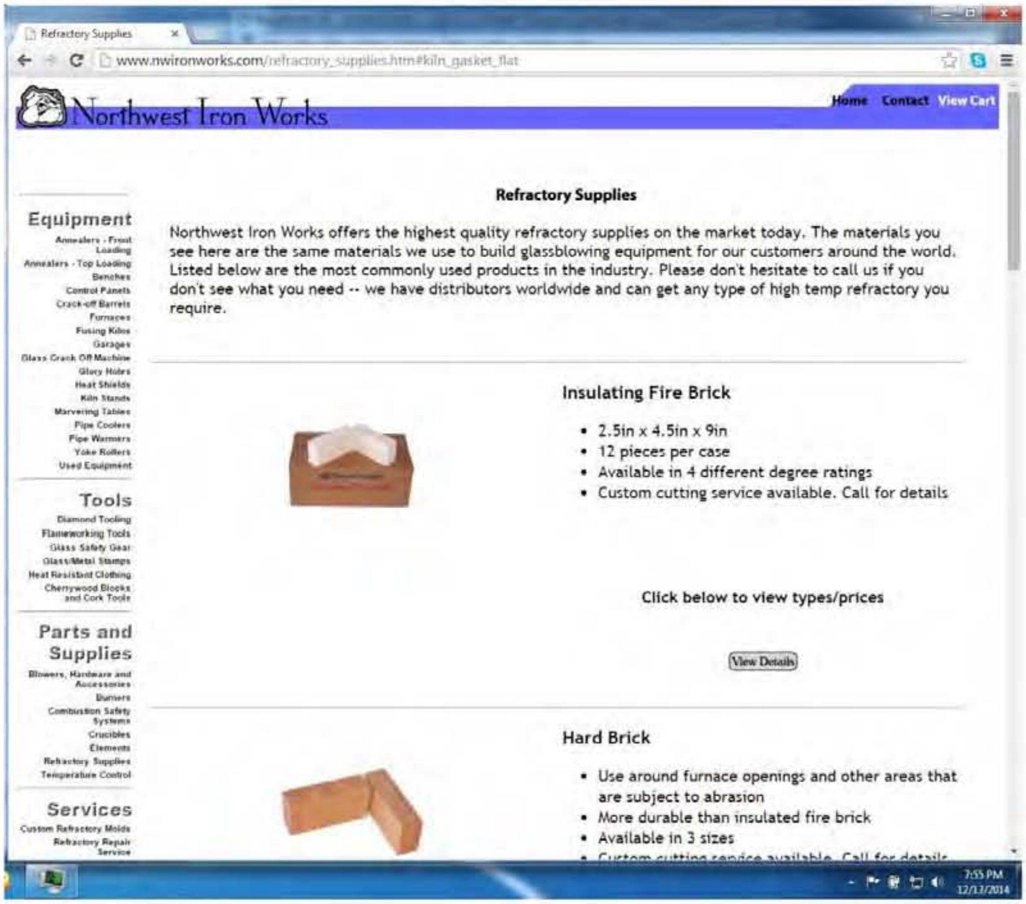
-31-

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit X

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit Y


Refractory Supplies

www.nwironworks.com/refractory_supplies.htm#kiln_gasket_flat

Northwest Iron Works

Home Contact View Cart

Equipment

Annealers - Front Loading
Annealers - Top Loading
Benches
Control Panels
Crack-off Barrels
Furnaces
Fusing Kilns
Garages
Glass Crack Off Machine
Glory Holes
Heat Shields
Kiln Stands
Marvering Tables
Pipe Coolers
Pipe Warmers
Yoke Rollers
Used Equipment

Tools

Diamond Tooling
Flameworking Tools
Glass Safety Gear
Glass/Metal Stamps
Heat Resistant Clothing
Cherrywood Blocks and Cork Tools

Parts and Supplies

Blowers, Hardware and Accessories
Burners
Combustion Safety Systems
Crucibles
Elements
Refractory Supplies
Temperature Control

Services

Custom Refractory Molds
Refractory Repair Service

Refractory Supplies

Northwest Iron Works offers the highest quality refractory supplies on the market today. The materials you see here are the same materials we use to build glassblowing equipment for our customers around the world. Listed below are the most commonly used products in the industry. Please don't hesitate to call us if you don't see what you need -- we have distributors worldwide and can get any type of high temp refractory you require.

Insulating Fire Brick

- 2.5in x 4.5in x 9in
- 12 pieces per case
- Available in 4 different degree ratings
- Custom cutting service available. Call for details

Click below to view types/prices

View Details

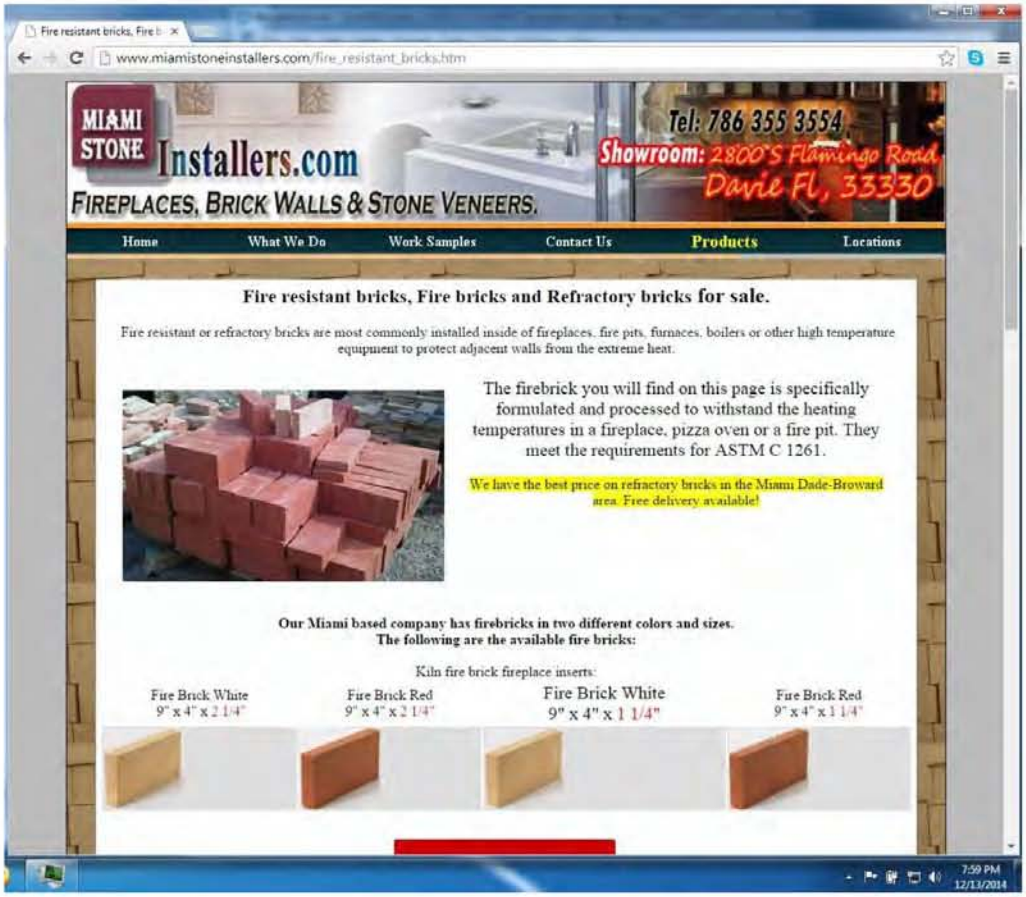
Hard Brick

- Use around furnace openings and other areas that are subject to abrasion
- More durable than insulated fire brick
- Available in 3 sizes

7:55 PM
12/13/2014

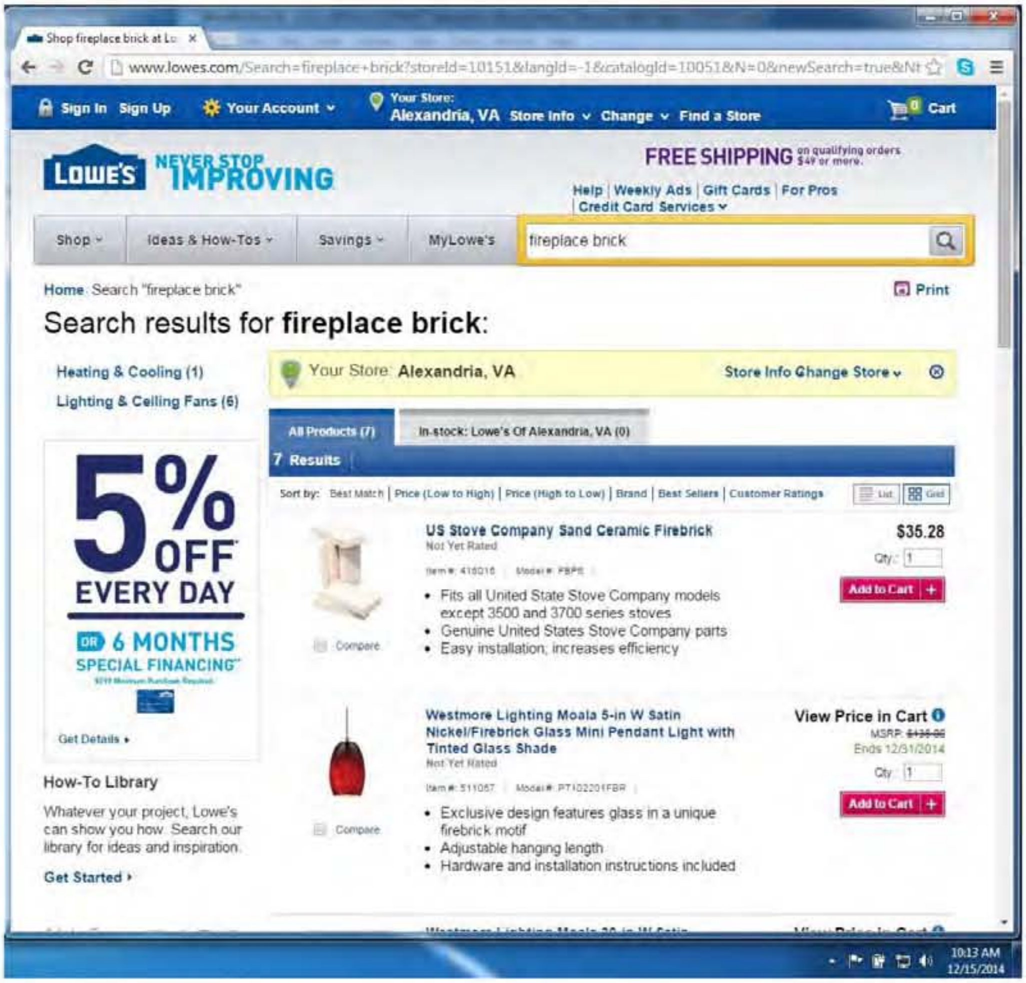
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit Z



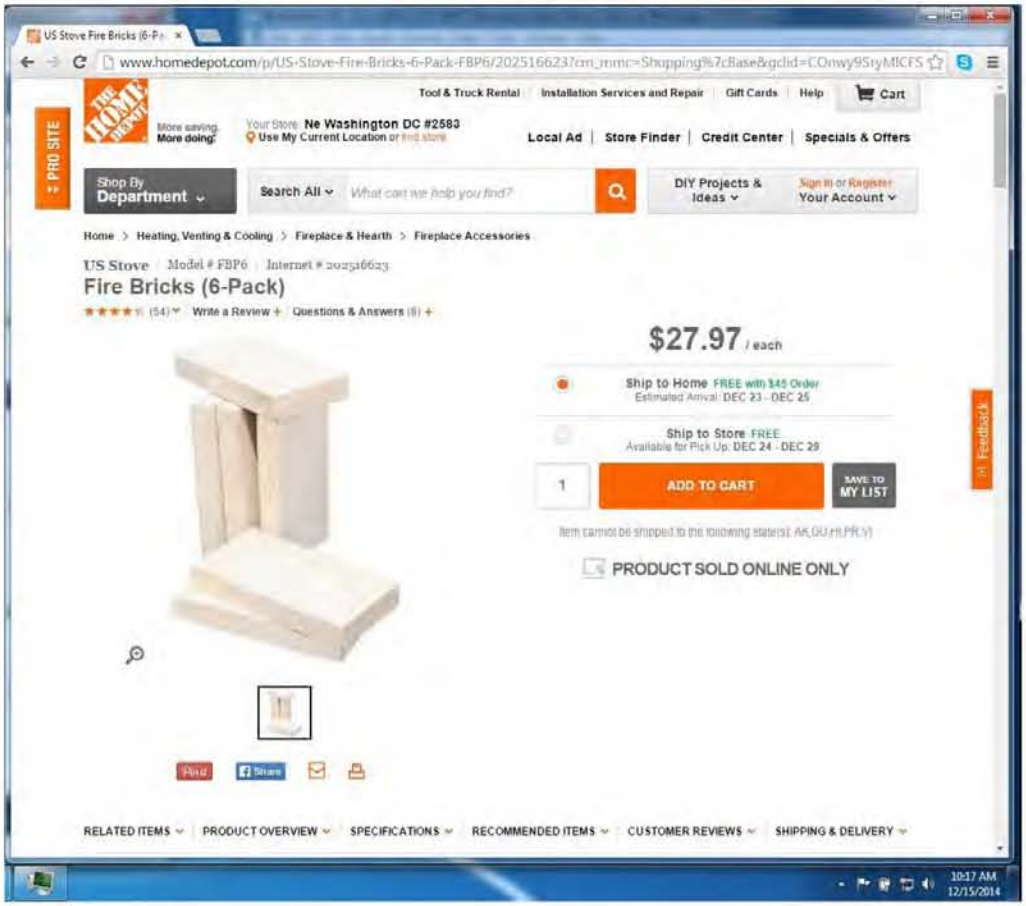
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit AA



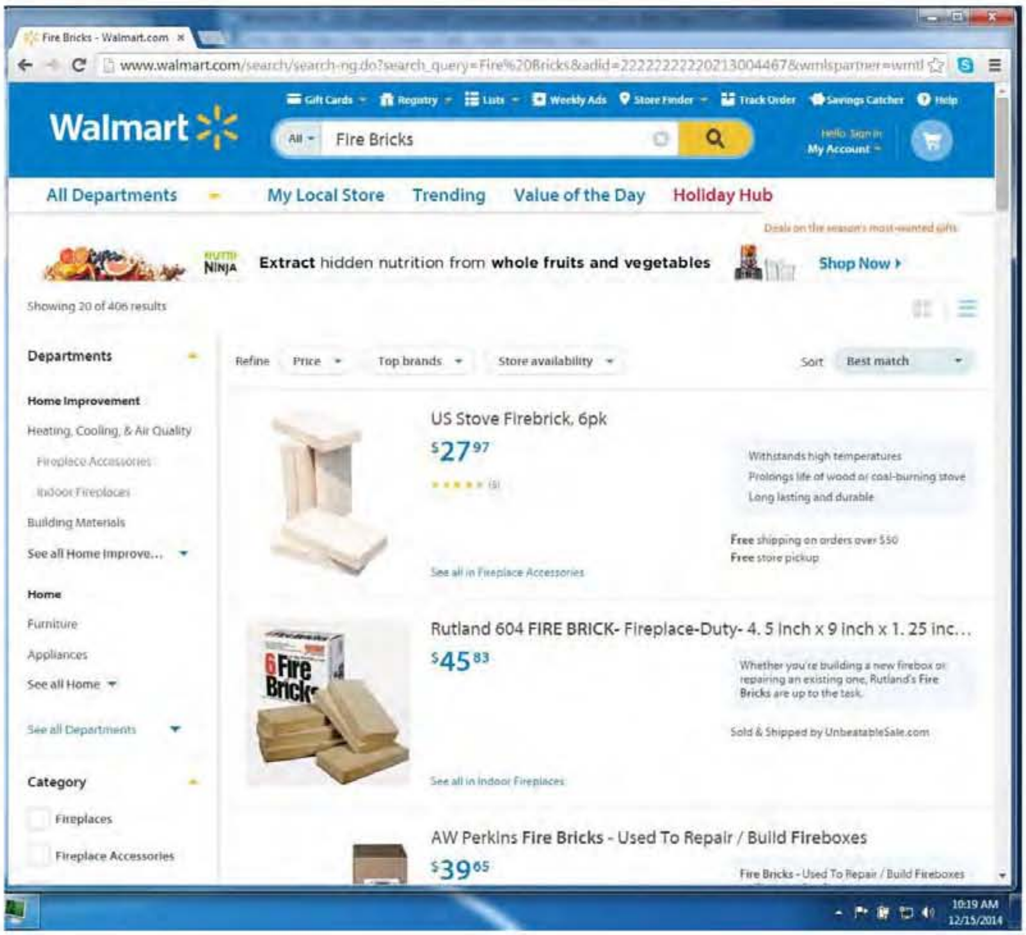
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit AB



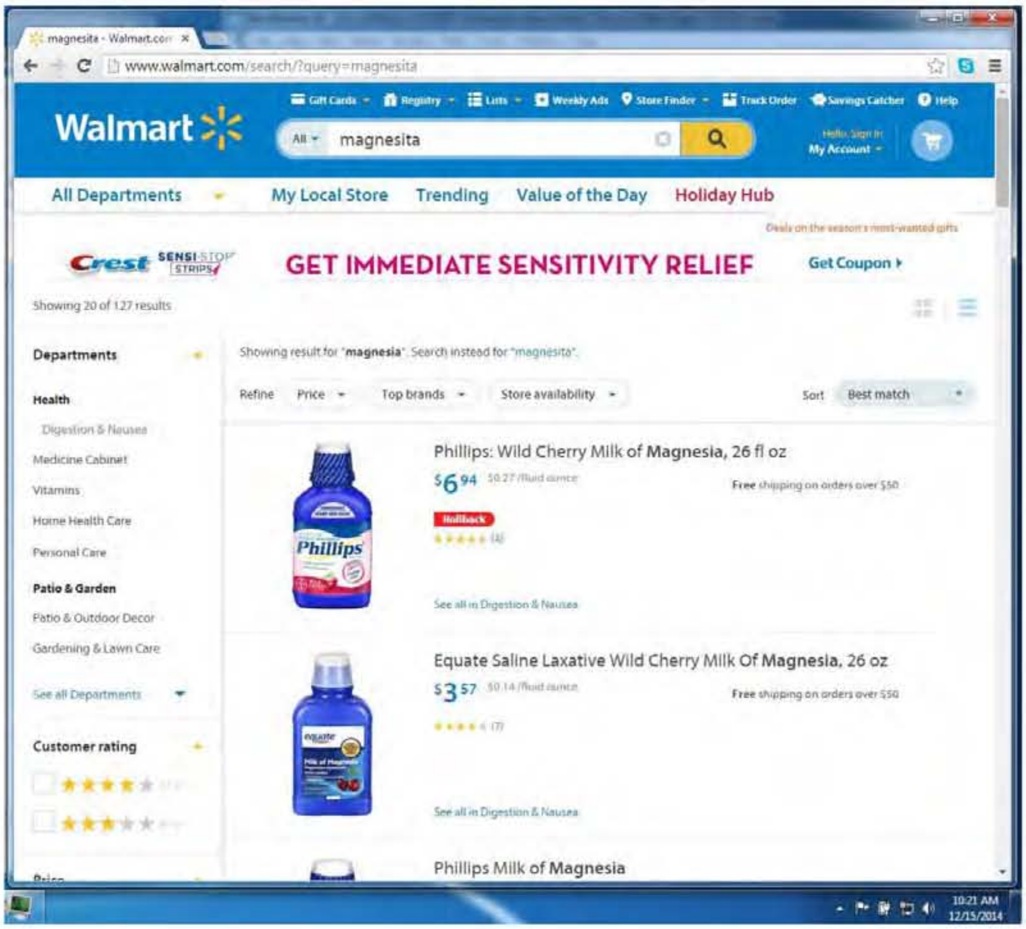
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit AC



DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit AD

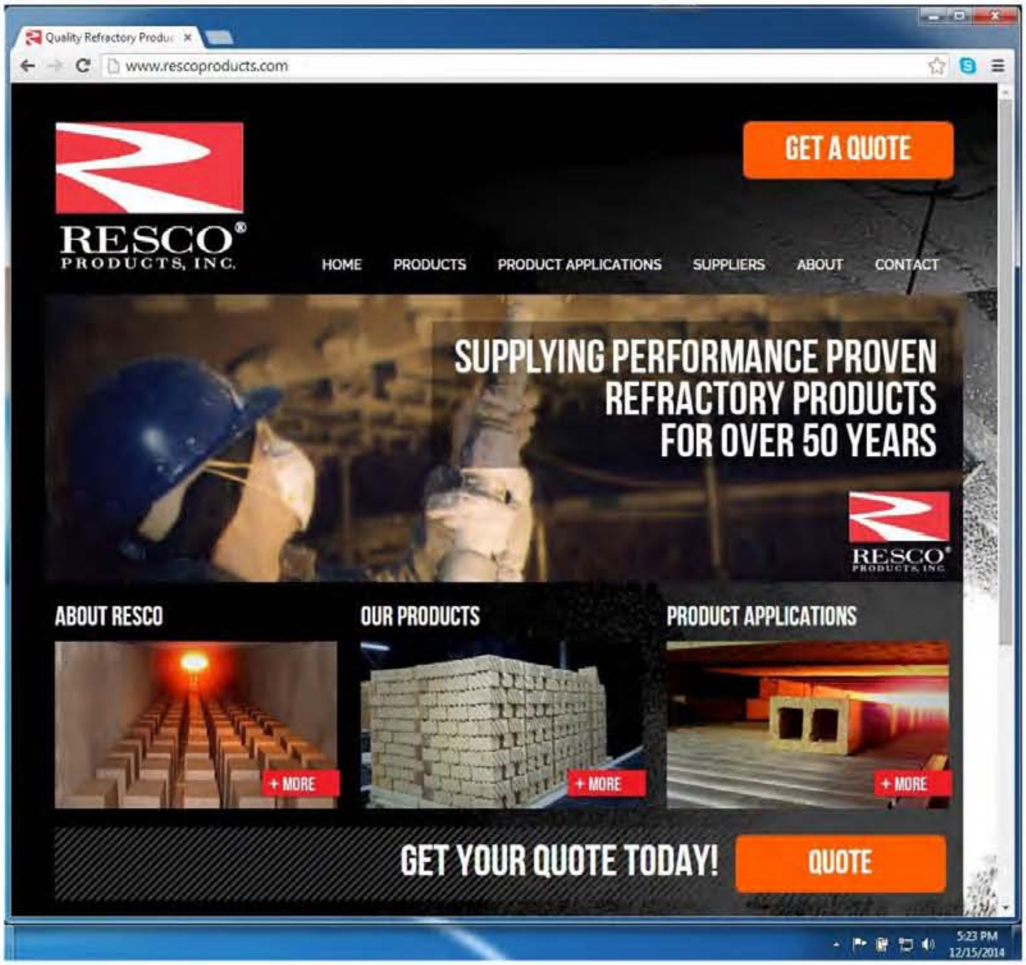


DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit AE

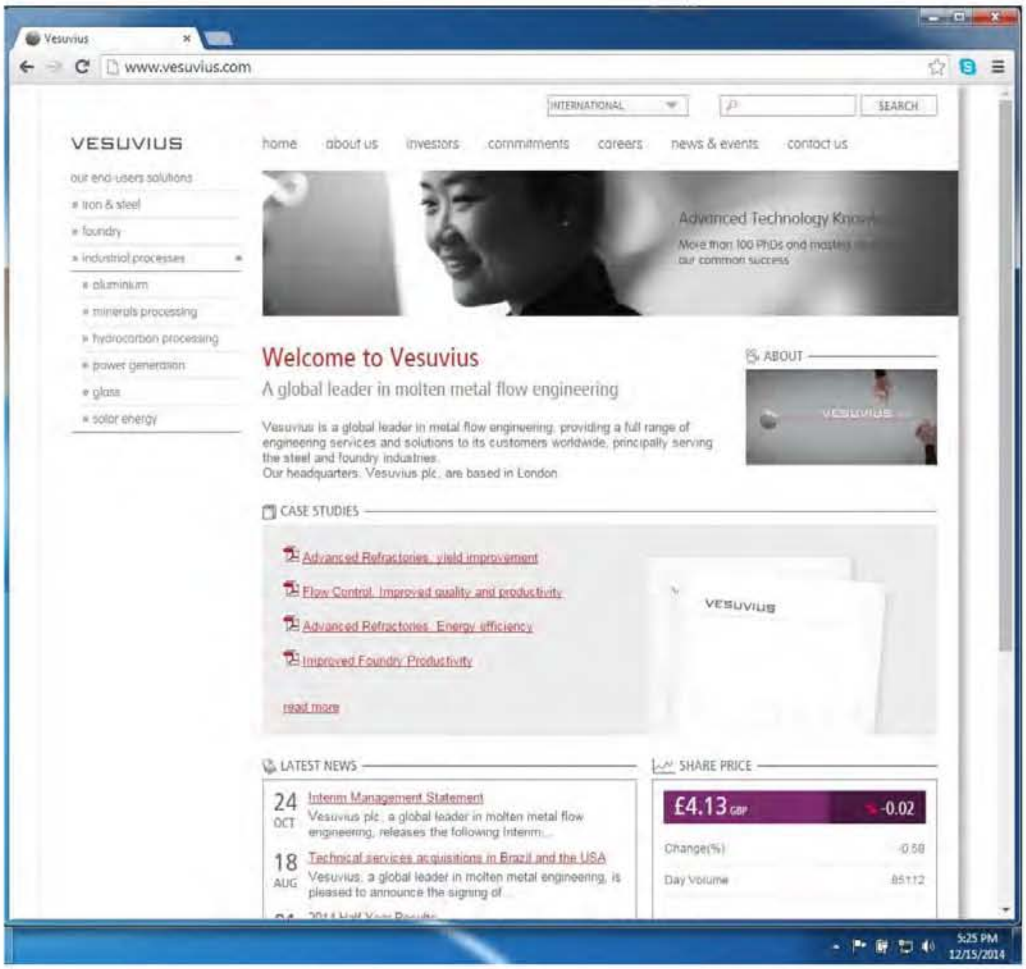
DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit AF



DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit AG



DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

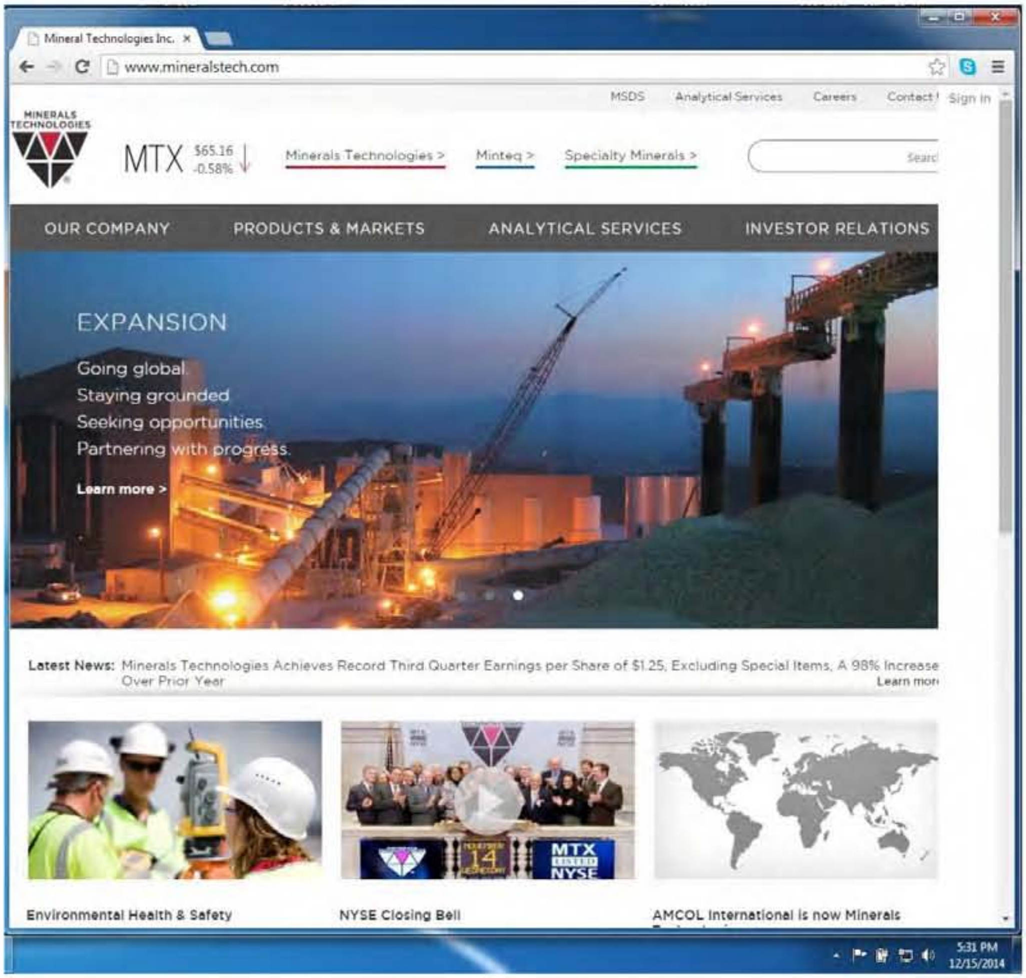
Exhibit AH

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit AI

DECLARATION ABOUT GENERIC TERMS ON WEB PAGES
U.S. Application No. 77873477

Exhibit AJ



Language Use in the United States: 2011

American Community Survey Reports

By Camille Ryan
Issued August 2013
ACS-22

INTRODUCTION

English is the language spoken by most people in the United States. The official language of many states is English[1] and it is the language used in nearly all governmental functions. Despite this predominance, many people in the United States speak languages other than English, and there has long been an interest in these groups and in how well they are able to participate in civic life and interact with the English-speaking majority. Beginning in 1890, the U.S. Census Bureau started inquiring about the languages that people spoke and, with some interruptions in the middle of the twentieth century, similar questions continue to this day.

The primary purpose of the current questions on language use is to measure the portion of the U.S. population that may need help in understanding English. These data are used in a wide variety of legislative, policy, and research applications as well as for legal, financial, and marketing decisions. People who speak a particular language other than English and cannot speak English "very well" can be helped with translation services, education, or assistance in accessing government services. The federal government uses data on language use and English-speaking ability to determine which local areas must provide language-assistance services under the Voting Rights Act. These data are also used to allocate educational funds to states to help their schools teach students with lower levels of English proficiency. In 2000, President Clinton signed an executive order requiring federal agencies to identify the need for services to those with limited English proficiency (LEP) and to implement a system to provide meaningful access to language-assistance services. Agencies rely on these data to determine how and where to provide language-assistance services.[2] Many other institutions, organizations, local governments, and private enterprises make use of these data in similar ways.

Figure 1.
Reproduction of the Questions on Language From the 2011 American Community Survey

14 a. Does this person speak a language other than English at home?

☐ Yes
☐ No → *SKIP to question 15a*

b. What is this language?

For example: Korean, Italian, Spanish, Vietnamese

c. How well does this person speak English?

☐ Very well
☐ Well
☐ Not well
☐ Not at all

Source: U.S. Census Bureau, 2011 American Community Survey.

[1] Schildkraut, Deborah, 2001, "Official-English and the States: Influences on Declaring English the Official Language in the United States," *Political Research Quarterly*, Vol. 54, No. 2: pp. 445–457.

[2] See <www.lep.gov>.

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

United States Census Bureau

The Census Bureau collected language data in the 1980, 1990, and 2000 decennial censuses using a series of three questions asked of the population 5 years old and over. The first question asked if the person spoke a language other than English at home. Those who responded "yes" to this question were then asked to report the language that they spoke. The Census Bureau coded these responses into 381 detailed language categories. The third question asked how well that person spoke English, with answer categories of "very well," "well," "not well," and "not at all." Beginning in 2010, the questions were no longer asked on the decennial census. These same three questions (Figure 1) are now asked each year on the American Community Survey (ACS), which is the primary source of language data.

This report relies primarily on data from the 2011 ACS. Language and English-speaking ability questions that were historically collected once every 10 years in the decennial census are now captured annually in the ACS. The ACS collects information from a large annual sample of approximately 3 million housing unit addresses and therefore provides more reliable statistics. The ACS is administered to a sample of the entire resident population, including those living in group quarters, which makes most estimates from the ACS comparable with those from earlier censuses.[3] Taking advantage of this fact, the report also provides a historical look at languages other than English spoken in the United States since 1980. The report also looks at characteristics of the population speaking a language other than English. The ACS also provides reliable estimates for small levels of geography, including counties, cities, and tracts, allowing exploration of the distribution of language use across states and metropolitan areas of the United States.

Four Major Language Groups

Spanish includes Spanish, Spanish Creole, and Ladino.

Other Indo-European languages include most languages of Europe and the Indic languages of India. These include the Germanic languages, such as German, Yiddish, and Dutch; the Scandinavian languages, such as Swedish and Norwegian; the Romance languages, such as French, Italian, and Portuguese; the Slavic languages, such as Russian, Polish, and Serbo-Croatian; the Indic languages, such as Hindi, Gujarati, Punjabi, and Urdu; Celtic languages; Greek; Baltic languages; and Iranian languages.

Asian and Pacific Island languages include Chinese; Korean; Japanese; Vietnamese; Hmong; Khmer; Lao; Thai; Tagalog or Pilipino; the Dravidian languages of India, such as Telugu, Tamil, and Malayalam; and other languages of Asia and the Pacific, including the Philippine, Polynesian, and Micronesian languages.

All Other languages include Uralic languages, such as Hungarian; the Semitic languages, such as Arabic and Hebrew; languages of Africa; native North American languages, including the American Indian and Alaska native languages; and indigenous languages of Central and South America.

LANGUAGES SPOKEN

Table 1 provides some basic information from the 2011 ACS about speakers of non-English languages and their English-speaking ability. Of 291.5 million people aged 5 and over, 60.6 million people (21 percent of this population) spoke a language other than English at home. While the Census Bureau codes 381 detailed languages, data tabulations are not generally available for all of these detailed groups. Instead, the Census Bureau collapses languages into smaller sets of "language groups." The most detail used in standard data products separates out 39 languages and language groups (Table 1). The simplest uses four major groups: Spanish, Other Indo-European languages, Asian and Pacific Island languages, and All Other languages. These four groups are explained further in the text box.

One question that sometimes arises is, "How many languages are spoken in the United States?" To answer this question, we have to decide what constitutes a unique language. To develop its list of languages, the Census Bureau consulted reference works such as *Ethnologue: Languages of the World*,[4] which lists 6,909 languages. From these sources, the Census Bureau created a list of 381 languages, with less detail provided for languages rarely spoken in this country. Accepting this list, a second issue is that the count of languages is limited to those that people report speaking

[3] A paper comparing ACS data to census data was prepared by the Census Bureau in 2008. See <www.census.gov/acs/www/Downloads/library/2008/Language_Comparison_Report_2008-03.pdf>.

[4] See <www.ethnologue.com>.

Table 1.

Detailed Languages Spoken at Home by English-Speaking Ability for the Population 5 Years and Over: 2011

(For information on confidentiality protection, sampling error, nonsampling error, and definitions, see *www.census.gov/acs/www/*)

Characteristics	Population 5 years and over (Number)	Spoke a language other than English at home[1] (Percent)	English-speaking ability[2] (Percent)			
			Spoke English "very well"	Spoke English "well"	Spoke English "not well"	Spoke English "not at all"
Population 5 years and over	291,524,091	X	X	X	X	X
Spoke only English at home	230,947,071	X	X	X	X	X
Spoke a language other than English at home	**60,577,020**	**100.0**	**58.2**	**19.4**	**15.4**	**7.0**
Spanish or Spanish Creole	37,579,787	62.0	56.3	17.8	16.9	9.0
Other Indo-European languages:						
French	1,301,443	2.1	79.6	13.9	5.9	0.6
French Creole	753,990	1.2	56.8	23.8	15.2	4.3
Italian	723,632	1.2	73.5	17.1	8.6	0.8
Portuguese	673,566	1.1	61.8	20.8	13.5	3.9
German	1,083,637	1.8	82.9	13.1	3.6	0.3
Yiddish	160,968	0.3	68.4	17.7	10.2	3.7
Other West Germanic languages	290,461	0.5	77.6	17.9	3.7	0.8
Scandinavian languages	135,025	0.2	90.6	7.7	1.6	0.1
Greek	304,928	0.5	75.3	15.5	7.8	1.4
Russian	905,843	1.5	52.3	25.6	16.8	5.3
Polish	607,531	1.0	60.0	23.4	13.8	2.8
Serbo-Croatian	269,624	0.4	61.7	21.9	13.6	2.9
Other Slavic languages	336,062	0.6	62.1	22.8	11.9	3.3
Armenian	246,915	0.4	53.8	22.2	16.5	7.6
Persian	407,586	0.7	62.7	21.9	12.0	3.4
Gujarati	358,422	0.6	63.8	20.2	12.2	3.8
Hindi	648,983	1.1	77.0	16.3	5.3	1.4
Urdu	373,851	0.6	70.0	19.3	9.2	1.5
Other Indic languages	815,345	1.3	60.6	23.7	10.9	4.9
Other Indo-European languages	449,600	0.7	65.1	21.5	9.9	3.4
Asian and Pacific Island languages:						
Chinese	2,882,497	4.8	44.3	26.1	19.9	9.7
Japanese	436,110	0.7	57.5	27.4	13.9	1.2
Korean	1,141,277	1.9	44.5	27.0	24.4	4.0
Mon-Khmer, Cambodian	212,505	0.4	47.1	23.4	22.9	6.6
Hmong	211,227	0.3	56.7	22.2	14.9	6.2
Thai	163,251	0.3	43.4	34.8	18.9	2.8
Laotian	140,866	0.2	50.9	22.1	22.7	4.3
Vietnamese	1,419,539	2.3	39.8	27.1	25.8	7.3
Other Asian languages	855,303	1.4	69.3	19.6	8.4	2.7
Tagalog	1,594,413	2.6	67.2	25.6	6.7	0.5
Other Pacific Island languages	428,476	0.7	61.6	25.7	11.7	1.1
Other languages:						
Navajo	169,369	0.3	78.8	14.2	4.8	2.2
Other Native American languages	195,407	0.3	85.4	11.4	2.9	0.3
Hungarian	93,102	0.2	71.0	21.1	7.3	0.7
Arabic	951,699	1.6	63.3	21.7	11.9	3.1
Hebrew	216,343	0.4	84.7	11.9	2.9	0.5
African languages	884,660	1.5	68.1	21.1	8.6	2.1
All other languages	153,777	0.3	56.3	19.7	14.8	9.3

X Not applicable.

[1] The percentage in this column is calculated as the number of speakers of the specific language divided by the total number of those who spoke a language other than English at home (60,577,020).

[2] The percentages for these columns are calculated as the number of those who spoke English "very well," "well," "not well," or "not at all" for a particular language divided by the total number of those who spoke that language.

Note: Margins of error for all estimates can be found in the Appendix Table 1 <www.census.gov/hhes/socdemo/language/data/acs/Table1.xls>. For more information on the ACS, see <www.census.gov/acs/www/>.

Source: U.S. Census Bureau, 2011 American Community Survey.

the language at home. Therefore, while no definitive answer to the question is available, a tabulation from the 2006–2008 ACS listed over 300 languages spoken in the United States.[5]

Many of the languages spoken in the United States are native North American languages. The ACS provides codes for 169 distinct native North American languages, and 134 of these languages were recorded in the tabulations from 2006–2008. In 2011, the Census Bureau published a brief report on native North American languages spoken in the United States.[6]

ENGLISH-SPEAKING ABILITY

Most people who spoke a non-English language at home also reported that they spoke English "very well" (Table 4). Overall, the proportion was 58 percent who spoke "very well," with another 19 percent who spoke English "well," 15 percent who spoke "not well," and 7 percent who spoke English "not at all."

The usefulness of the self-rated English-speaking ability question was established in the 1980s, when research confirmed a strong relation between this rating and separate tests of ability to perform tasks in English.[7] In many of its tables, the Census Bureau makes a distinction between those who speak English only or speak English "very well" on the one hand and those who speak English less than "very well" on the other.

Even among the speakers of the top ten languages, English-speaking ability varied greatly (Figure 2). A high proportion (80 percent or more) of French and German speakers spoke English "very well." In contrast, less than 50 percent of those who spoke Korean, Chinese, or Vietnamese spoke English "very well." The proportion of those who spoke English "very well" among Russian, Spanish, French Creole, Arabic, and Tagalog speakers ranged from 52 percent to 67 percent.

Among the most common non-English languages in 2011, Spanish experienced growth in the past several years. Interestingly, while the percentage of the total population 5 years and over who spoke Spanish increased from 2005 to 2011, the percentage of the total population who spoke Spanish and spoke English less than "very well" actually decreased (Figure 3). The percentage of the total population 5 years and over who spoke Spanish grew from 12.0 percent in 2005 to 12.9 percent in 2011, while the percentage who spoke Spanish and spoke English less than "very well" decreased from 5.7 percent in 2005 to 5.6 percent in 2011.

Overall, speakers of all languages other than English who spoke English less than "very well" had not changed as a percentage of the total population 5 years and over from 2007 to 2011 (8.7 percent). This percentage had increased from 8.1 percent in 2000 to 8.7 percent in 2007.

LANGUAGES SPOKEN IN THE UNITED STATES: A HISTORICAL LOOK

Data on language spoken and ability to speak English were first collected in the census of 1890 (Appendix A). The form of census questions about language has varied over the years, as well as the population covered. In 1890 and 1900, all people 10 years old and over who did not speak English were asked what language they spoke. In 1910, 1920, 1930, and 1960, foreign-born people were asked about their "mother tongue" (the language spoken in the household when the respondent was growing up). Finally, in the 1980 Census, and in data collections since that time, respondents were asked the standard set of three questions shown in Figure 1. These questions are now asked of everyone aged 5 and over in the household.[8]

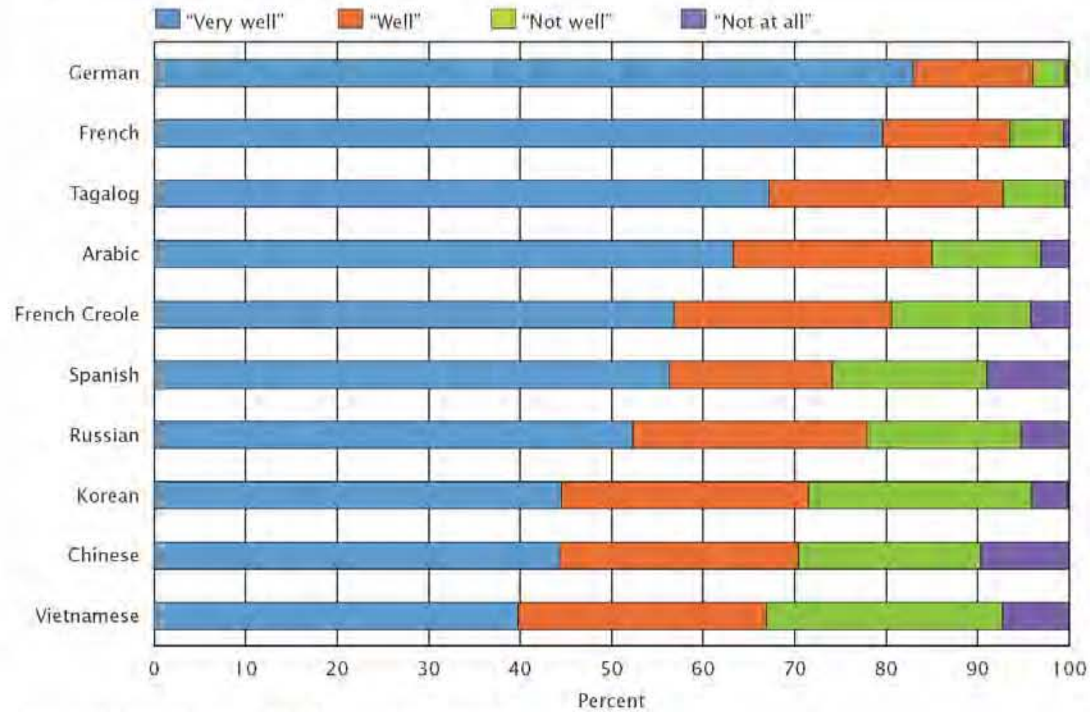
[5] See <www.census.gov/hhes/socdemo/language/data/other/detailed-lang-tables.xls>.

[6] See <www.census.gov/prod/2011pubs/acsbr10-10.pdf>.

[7] See Department of Education, Office of Planning Budget and Evaluation, 1987, "Numbers of Limited English Proficient Children: National, State and Language-Specific Estimates" (April) mimeo, which examined the school-aged population and Kominski, Robert, 1989, "How Good is "How Well"? An Examination of the Census English-Speaking Ability Question," accessed at <www.census.gov/hhes/socdemo/language/data/census/ASApaper1989.pdf>, presented at the Annual meetings of the American Statistical Association, which examined the general population.

[8] See Gillian Stevens, 1999, "A Century of U.S. Censuses and the Language Characteristics of Immigrants," *Demography*, Vol. 36, No. 3, pp. 387–397.

Figure 2.
English-Speaking Ability for the Top Ten Languages: 2011
(Population 5 years and over who spoke a language other than English at home)



Source: U.S. Census Bureau, 2011 American Community Survey.

Table 2 provides a detailed list of 17 of the common languages other than English spoken in the home for the period 1980 to 2010.[9] This list provides data for only those languages that were available in all four time periods. In 1980, 23.1 million people spoke a language other than English at home, compared with 59.5 million people in 2010 (a 158 percent increase, during which time the population grew 38 percent).

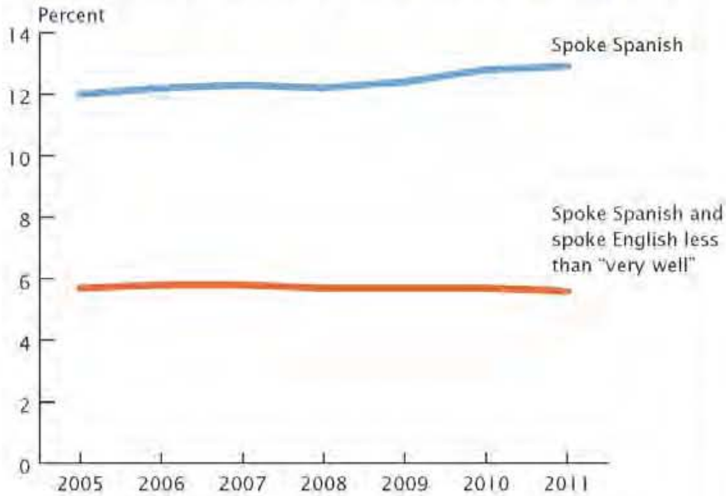
Some languages showed remarkable growth since 1980, while others declined. The largest numeric increase was for Spanish speakers (25.9 million more in 2010 than in 1980). Vietnamese speakers had the largest percentage increase (599 percent). Eight languages more than doubled during the period, including four that had 200,000 speakers or fewer in 1980: Russian, Persian, Armenian, and Vietnamese.

While increased immigration led to gains for some language groups, other groups experienced aging populations and dwindling migrant flows into the United States. The languages that declined in use since 1980 include Italian, which had a net decline of about 900,000

[9] Data from 1980, 1990, and 2000 are from decennial censuses, while the data from 2010 come from the 2010 ACS. For more information about language use and English-speaking ability differences between the census and the ACS, read "Comparison of the Estimates on Language Use and English-Speaking Ability from the ACS, the C2SS, and Census 2000 (Report)." This report can be accessed at <www.census.gov/acs/www/Downloads/library/2008/Language_Comparison_Report_2008-03.pdf>.

Figure 3.

Percentage Who Spoke Spanish and Percentage Who Spoke Spanish and Spoke English Less Than "Very Well" of the Population 5 Years and Over: 2005–2011



Source: U.S. Census Bureau, 2005, 2006, 2007, 2008, 2009, 2010, 2011 American Community Surveys.

speakers (55 percent decline). Other languages, such as Polish, Yiddish, German, and Greek, have also seen large proportionate decreases.

The Census Bureau recently examined the future of language use in the United States. Two offsetting influences determine the number of people in the United States who speak a language other than English. The first is immigration—if an increased number of people enter the country from places where English is not the main language, the number who speak other languages at home will increase. A second major influence is population aging—as people get older and spend time in the United States, they are increasingly likely to make English their main language of communication. The research shows that we can expect a small increase in the percentage who speak a language other than English at home in coming years.[10]

Even looking over the span of a little more than a decade, changes in language use are evident. Several languages or language groups experienced major growth between 2000 and 2011 (Figure 4). South Asian languages in particular experienced high levels of growth. "Other Asian languages," a group comprised mostly of the South Asian languages, Malayalam, Telugu, and Tamil, grew by 115 percent, and Hindi grew by 105 percent.[11] "Other Indic languages" (languages such as Punjabi, Bengali, and Marathi) grew by 86 percent. The slowest growing South Asian languages were Gujarati (52 percent) and Urdu (42 percent).[12]

"African languages," which includes languages such as Amharic, Ibo, Yoruba, and Swahili, also experienced significant growth of 111 percent.[13] This indicates that the number of speakers in this language group more than doubled. In comparison, the growth of Spanish

[10] See <www.census.gov/hhes/socdemo/language/data/acs/Ortman_Shin_ASA2011_paper.pdf>.

[11] The percentage change for "Other Asian languages" was not statistically different from the percentage change for Hindi.

[12] The percentage change for Gujarati was not statistically different from the percentage change for Urdu.

[13] The percentage change for "African languages" was not statistically different from the percentage change for "Other Asian languages" or Hindi.

Table 2.

Languages Spoken at Home for the Population 5 Years and Over: 1980, 1990, 2000, and 2010

(For information on confidentiality protection, sampling error, nonsampling error, and definitions, see *www.census.gov/acs/www/*)

Characteristics	1980	1990	2000	2010	Percentage change 1980–2010
Population 5 years and over	**210,247,455**	**230,445,777**	**262,375,152**	**289,215,746**	**37.6**
Spoke only English at home	187,187,415	198,600,798	215,423,557	229,673,150	22.7
Spoke a language other than English at home[1]	23,060,040	31,844,979	46,951,595	59,542,596	158.2
Spoke a language other than English at home[1 2]	**23,060,040**	**31,844,979**	**46,951,595**	**59,542,596**	**158.2**
Spanish or Spanish Creole	11,116,194	17,345,064	28,101,052	36,995,602	232.8
French (incl. Patois, Cajun, Creole)	1,550,751	1,930,404	2,097,206	2,069,352	33.4
Italian	1,618,344	1,308,648	1,008,370	725,223	–55.2
Portuguese or Portuguese Creole	351,875	430,610	564,630	688,326	95.6
German	1,586,593	1,547,987	1,383,442	1,067,651	–32.7
Yiddish	315,953	213,064	178,945	154,763	–51.0
Greek	401,443	388,260	365,436	307,178	–23.5
Russian	173,226	241,798	706,242	854,955	393.5
Polish	820,647	723,483	667,414	608,333	–25.9
Serbo-Croatian	150,255	70,964	233,865	284,077	89.1
Armenian	100,634	149,694	202,708	240,402	138.9
Persian	106,992	201,865	312,085	381,408	256.5
Chinese	630,806	1,319,462	2,022,143	2,808,692	345.3
Japanese	336,318	427,657	477,997	443,497	31.9
Korean	266,280	626,478	894,063	1,137,325	327.1
Vietnamese	197,588	507,069	1,009,627	1,381,488	599.2
Tagalog	474,150	843,251	1,224,241	1,573,720	231.9

[1] The languages highlighted in this table are the languages where data were available for the four time periods: 1980, 1990, 2000, and 2010.
[2] The total does not match the sum of the 17 languages listed in this table because the total includes all the other languages that are not highlighted here.
Note: Margins of error for all estimates can be found in the Appendix Table 2 <www.census.gov/hhes/socdemo/language/data/acs/Table2.xls>. For more information on the ACS, see <www.census.gov/acs/www/>.
Source: U.S. Census Bureau, 1980 and 1990 Census, Census 2000, and the 2010 American Community Survey.

speakers (34 percent) was much smaller even though Spanish continued to have the largest number of speakers in 2000 and 2011.

On the other hand, several Indo-European languages experienced a decline during that same time period. The number of Italian speakers decreased by 28 percent. The number of French, Hungarian, and German speakers also declined by about 20 percent.

LANGUAGE AND ENGLISH-SPEAKING ABILITY BY SELECTED SOCIAL AND DEMOGRAPHIC CHARACTERISTICS

Age and English-Speaking Ability

Table 3 shows language spoken at home and English-speaking ability for Spanish and non-Spanish speakers for selected demographic and social characteristics. Spanish speakers were less likely to speak English "very well" (56 percent) than those who spoke another language (61 percent). However, both groups' English-speaking ability varied by demographic characteristics. Those who were young and were native born were more likely to speak English "very well." Of the population 15 to 19 years old, 83 percent of those who spoke

Figure 4.
Percentage Change in Language Spoken at Home: 2000–2011
(Population 5 years and over)

*For examples of specific languages within these groups, see Appendix A of the 2011 subject definitions, located at <www.census.gov/acs/www/Downloads/data_documentation/SubjectDefinitions/2011_ACSSubjectDefinitions.pdf>.

Source: U.S. Census Bureau, Census 2000 and 2011 American Community Survey.

Spanish and 81 percent of those who spoke a language other than Spanish spoke English "very well."

Race and Ethnicity and English-Speaking Ability

Spanish speakers who were non-Hispanic White, Black, or Asian were more likely to speak English "very well" compared with those who were Hispanic.[14] The difference between non-Hispanic Whites and Hispanics who spoke English "very well" was 27 percentage points. There was also variation in English-speaking ability among those who spoke a language other than Spanish. Among those who spoke a language other than Spanish, Asians were least likely to speak English "very well." However, none of the differences between groups was as large as the difference between Spanish-speaking Hispanics and Spanish-speaking non-Hispanic Whites. Differences are also present across detailed race and Hispanic-origin groups, as examined in a recent Census Bureau report.[15]

[14] Federal surveys now give respondents the option of reporting more than one race. Therefore, two basic ways of defining a race group are possible. A group such as Asian may be defined as those who reported Asian and no other race (the race-alone or single-race concept) or as those who reported Asian regardless of whether they also reported another race (the race-alone-or-in-combination concept). This report shows data using the first approach (race alone). This report will refer to the White-alone population as White, the Black-alone population as Black, the Asian-alone population as Asian, and the White-alone-non-Hispanic population as non-Hispanic White. Use of the single-race population does not imply that it is the preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches. In this report, the term "non-Hispanic White" refers to people who are not Hispanic and who reported White and no other race. The Census Bureau uses non-Hispanic Whites as the comparison group for other race groups and Hispanics. Because Hispanics may be any race, data in this report for Hispanics overlap with data for racial groups.

[15] See <www.census.gov/prod/2010pubs/acsbr09-19.pdf>.

Table 3.

Language Spoken at Home by English-Speaking Ability by Selected Demographic and Social Characteristics for the Population 5 Years and Over: 2011

(For information on confidentiality protection, sampling error, nonsampling error, and definitions, see *www.census.gov/acs/www/*)

Characteristics	Population 5 years and over (Number)	Spoke a langauge other than English at home (Percent)	Spoke a language other than English at home — Spoke Spanish: Population 5 years and over (Number)	Spoke Spanish: Spoke English "very well" (Percent)	Spoke Spanish: Spoke English less than "very well" (Percent)	Spoke a language other than Spanish: Population 5 years and over (Number)	Spoke a language other than Spanish: Spoke English "very well" (Percent)	Spoke a language other than Spanish: Spoke English less than "very well" (Percent)
Total	**291,524,091**	**20.8**	**37,579,787**	**56.3**	**43.7**	**22,997,233**	**61.4**	**38.6**
Age								
5 to 14 years	41,131,310	21.8	6,451,625	76.2	23.8	2,535,007	77.6	22.4
15 to 19 years	21,822,474	22.3	3,412,795	82.7	17.3	1,449,462	80.6	19.4
20 to 39 years	83,350,155	25.6	13,853,503	55.3	44.7	7,450,076	68.9	31.1
40 to 59 years	85,944,236	19.5	9,795,839	42.9	57.1	6,980,244	53.9	46.1
60 years and over	59,275,916	14.6	4,066,025	38.7	61.3	4,582,444	45.3	54.7
Sex								
Male	143,009,744	20.9	18,914,621	55.6	44.4	10,952,898	63.1	36.9
Female	148,514,347	20.7	18,665,166	57.0	43.0	12,044,335	59.8	40.2
Race and Hispanic Origin								
White alone	217,435,501	15.2	24,469,328	57.4	42.6	8,688,628	69.4	30.6
Non-Hispanic White alone	186,989,334	5.8	2,174,426	80.9	19.1	8,588,900	69.4	30.6
Black alone	36,354,608	8.3	881,899	68.1	31.9	2,128,247	64.8	35.2
Asian alone	14,148,367	76.7	77,751	74.3	25.7	10,777,195	53.0	47.0
Hispanic (of any race)	46,782,479	74.7	34,745,940	54.3	45.7	203,075	68.6	31.4
Nativity Status								
Native	251,380,737	10.6	19,487,953	80.9	19.1	7,185,626	84.8	15.2
Foreign born:								
Naturalized citizen	18,094,967	79.0	5,431,946	44.8	55.2	8,856,595	54.4	45.6
Not a citizen	22,048,387	89.0	12,659,888	23.4	76.6	6,955,012	45.9	54.1
Educational Attainment[1]								
Less than 12th grade	29,089,305	42.9	9,609,518	21.1	78.9	2,855,281	24.0	76.0
High school graduate	58,653,211	16.6	6,321,485	48.1	51.9	3,423,791	44.3	55.7
Some college, or associate's degree	59,838,341	14.6	5,029,756	69.8	30.2	3,726,173	61.7	38.3
Bachelor's degree or more	58,890,813	18.0	3,279,205	73.5	26.5	7,321,209	71.4	28.6
Employment Status[2]								
In labor force:								
Employed	140,399,548	21.0	17,955,542	52.2	47.8	11,542,775	63.7	36.3
Unemployed	16,060,624	22.6	2,452,052	55.8	44.2	952,685	61.1	38.9
Not in labor force	88,717,824	19.6	9,994,210	49.1	50.9	7,418,060	51.3	48.7
Poverty Status								
Below the poverty level	43,341,948	29.6	9,377,171	49.3	50.7	3,468,021	49.7	50.3
At or above poverty level	240,663,391	19.3	27,482,262	58.5	41.5	19,057,584	63.2	36.8
Disability Status								
With a disability	39,172,917	14.9	3,586,682	47.2	52.8	2,253,901	45.6	54.4
No disablility	252,351,174	21.7	33,993,105	57.3	42.7	20,743,332	63.1	36.9
Health Insurance								
With health insurance coverage	244,706,190	17.5	24,079,286	65.0	35.0	18,715,248	64.0	36.0
No health insurance coverage	46,817,901	38.0	13,500,501	40.9	59.1	4,281,985	49.9	50.1

[1] Educational attainment is displayed for the population 25 years and over.

[2] Employment status is shown for the population 16 years and over and does not include those in the Armed Forces.

Note: Margins of error for all estimates can be found in the Appendix Table 3 <www.census.gov/hhes/socdemo/language/data/acs/Table3.xls>. For more information on the ACS, see <www.census.gov/acs/www/>.

Source: U.S. Census Bureau, 2011 American Community Survey.

Citizenship and English-Speaking Ability

English-speaking ability varied by citizenship status among Spanish speakers much more than it did among those who spoke other languages. Among Spanish speakers, 45 percent of foreign-born naturalized citizens spoke English "very well" compared with 23 percent of foreign-born noncitizens. Among those who spoke a foreign language other than Spanish, the gap between foreign-born naturalized citizens and foreign-born noncitizens was smaller—only 9 percent.

Other Characteristics and English-Speaking Ability

Education, employment status, poverty status, disability status, and health insurance coverage were also correlated with English speaking ability. Seventy-three percent of Spanish-speakers with a bachelor's degree or more education spoke English "very well," compared with 71 percent of those who spoke a language other than Spanish for this same education level.

LANGUAGE CONCENTRATIONS IN STATES

Languages spoken at home are not evenly distributed throughout the nation. Some areas have high percentages of speakers of non-English languages, while others have lower levels. Table 4 shows the proportion of people who spoke a language other than English at home across the 50 states and the District of Columbia, as well as the English-speaking ability levels in those states. English-speaking ability varied across states. In West Virginia, only 2 percent of people 5 years old and over reported speaking a language other than English at home, while 44 percent of people in California reported the same.

Levels of English-speaking ability were also different across states. In Montana, a large percentage of those who spoke a language other than English at home (84 percent) reported speaking English "very well." In Alabama, this percentage was 55 percent.

Quite often, concentrations of specific language groups were found in certain areas of the country. An examination of some of these patterns is provided in the 2007 version of this report (Shin and Kominski, 2011).[16] In the short term, the factors creating these concentrations include points of entry into the United States and family connections facilitating chain migration (Alberto Palloni et al., 2001).[17] In the longer term, internal migration streams, employment opportunities, and other family situations can sometimes facilitate the diffusion of language groups within the country.

LANGUAGES SPOKEN IN METROPOLITAN AND MICROPOLITAN AREAS

Just as languages are dispersed unevenly across states, some languages are concentrated in certain metropolitan and micropolitan statistical areas. Large metropolitan areas such as New York, Los Angeles, and Chicago generally have large proportions of people who speak a language other than English at home because of the economic opportunities in these places or because they act as gateway points of entry into the country. Not all of the high levels of language clustering occur in the largest metropolitan areas, however. Many smaller metropolitan areas also had high proportions of people who spoke a language other than English at home.

Figure 5 shows a geographic distribution of the proportion of people who spoke a language other than English at home across metropolitan and micropolitan areas. In general, metropolitan and micropolitan areas within the west, south, and northeast tended to have higher levels of foreign-language speakers. Metropolitan and micropolitan areas located in the midwestern states tended to have lower levels of foreign-language speakers, with the exception of Illinois.

Table 5 presents the distribution of the languages other than English for the 57 metropolitan areas where one-fourth or more of the population 5 years and older speak a language other than English at home. Twenty-two of these metropolitan areas are located in California, and 12 are in Texas. The remaining 23 are in various states, such as Florida, New Mexico, Arizona, and New Jersey. The Laredo, Texas, metropolitan area had the highest percentage of the population who spoke a language other than English. The great majority of these non-English language speakers spoke Spanish (99 percent). Other metropolitan areas with at least 90 percent Spanish speakers among those speaking a language other than English included several cities located on the border with Mexico, including Brownsville-Harlingen, McAllen-Edinburg-Mission, and El Paso in Texas; Yuma, Arizona; El Centro, California; and Las Cruces, New Mexico. Spanish speakers were less than 40 percent of all non-English language speakers in only three of the listed metropolitan areas. This included Honolulu, Hawaii, where 88 percent spoke Asian and Pacific Island languages,

[16] See <www.census.gov/hhes/socdemo/language/data/acs/ACS-12.pdf>.

[17] Alberto Palloni et al., 2001, "Social Capital and International Migration: A Test Using Information on Family Networks," *American Journal of Sociology*, Vol. 106, No. 5: 1262–1298.

Table 4.

Language Spoken at Home and English-Speaking Ability by State: 2011

(For information on confidentiality protection, sampling error, nonsampling error, and definitions, see *www.census.gov/acs/www/*)

State	Population 5 years and over (Number)	Spoke a language other than English at home		English-speaking ability (Percent)			
		Number	Percent	Spoke English "very well"	Spoke English "well"	Spoke English "not well"	Spoke English "not at all"
United States	**291,524,091**	**60,577,020**	**20.8**	**58.2**	**19.4**	**15.4**	**7.0**
Alabama	4,504,275	235,830	5.2	55.4	19.0	20.2	5.3
Alaska	668,687	111,319	16.6	69.2	20.9	8.6	1.3
Arizona	6,034,541	1,629,853	27.0	65.5	15.7	12.9	5.9
Arkansas	2,740,313	204,666	7.5	54.7	23.0	17.0	5.2
California	35,158,257	15,390,211	43.8	55.7	19.4	16.6	8.4
Colorado	4,775,755	798,923	16.7	62.0	18.1	14.5	5.4
Connecticut	3,384,503	724,026	21.4	61.5	19.2	14.4	5.0
Delaware	851,887	115,717	13.6	65.1	17.1	12.5	5.4
District of Columbia	581,764	87,516	15.0	72.5	16.2	8.6	2.7
Florida	17,983,218	4,959,186	27.6	57.0	19.2	15.5	8.3
Georgia	9,141,183	1,214,783	13.3	57.2	19.3	17.8	5.7
Hawaii	1,286,790	323,915	25.2	52.4	27.5	17.5	2.7
Idaho	1,466,499	152,712	10.4	62.4	15.6	15.9	6.1
Illinois	12,042,289	2,730,437	22.7	57.3	20.7	15.9	6.2
Indiana	6,088,598	501,711	8.2	60.1	21.0	14.7	4.2
Iowa	2,864,107	208,066	7.3	59.1	19.5	15.6	5.8
Kansas	2,669,198	304,111	11.4	59.3	19.0	16.2	5.5
Kentucky	4,090,258	197,131	4.8	58.1	21.2	16.7	4.0
Louisiana	4,261,861	371,986	8.7	67.2	16.4	11.5	4.9
Maine	1,261,967	83,579	6.6	76.8	13.0	8.3	1.9
Maryland	5,465,168	914,110	16.7	62.9	19.9	13.6	3.6
Massachusetts	6,224,979	1,370,449	22.0	59.6	20.3	13.9	6.2
Michigan	9,292,794	847,255	9.1	64.8	19.1	12.4	3.7
Minnesota	4,992,262	540,623	10.8	60.6	20.3	13.8	5.2
Mississippi	2,773,115	105,186	3.8	55.7	16.9	19.0	8.4
Missouri	5,629,071	362,210	6.4	62.0	20.8	12.9	4.3
Montana	937,750	43,660	4.7	83.7	13.2	2.7	0.4
Nebraska	1,711,659	176,008	10.3	54.1	19.4	20.1	6.4
Nevada	2,538,136	754,531	29.7	57.8	21.3	15.3	5.6
New Hampshire	1,250,588	97,479	7.8	70.5	18.8	8.4	2.3
New Jersey	8,285,611	2,520,761	30.4	57.4	20.7	15.4	6.4
New Mexico	1,937,824	707,597	36.5	72.5	13.9	9.1	4.6
New York	18,307,740	5,506,992	30.1	55.3	20.9	16.9	6.9
North Carolina	9,029,678	966,322	10.7	56.3	18.7	16.9	8.1
North Dakota	637,666	32,380	5.1	71.6	18.4	8.8	1.2
Ohio	10,836,508	721,796	6.7	64.9	20.8	11.4	2.9
Oklahoma	3,527,312	329,017	9.3	58.8	17.4	17.1	6.8
Oregon	3,633,190	540,456	14.9	57.8	19.0	15.6	7.6
Pennsylvania	12,021,912	1,237,714	10.3	62.6	19.7	13.3	4.4
Rhode Island	995,856	211,150	21.2	58.8	21.0	13.7	6.5
South Carolina	4,376,509	289,004	6.6	58.6	20.2	15.2	6.0
South Dakota	765,534	50,335	6.6	66.2	16.5	14.7	2.7
Tennessee	6,003,565	414,669	6.9	57.8	20.7	17.0	4.4
Texas	23,721,334	8,221,202	34.7	58.1	18.2	14.8	8.9
Utah	2,554,924	380,382	14.9	64.4	17.3	14.2	4.1
Vermont	595,658	29,402	4.9	71.4	20.1	6.5	2.0
Virginia	7,588,188	1,132,310	14.9	62.8	20.1	13.4	3.7
Washington	6,390,691	1,186,543	18.6	57.1	21.2	15.6	6.0
West Virginia	1,751,216	40,310	2.3	64.7	22.0	12.1	1.3
Wisconsin	5,362,567	467,555	8.7	62.1	19.0	14.3	4.6
Wyoming	529,136	33,934	6.4	72.8	14.0	10.5	2.7

Note: Margins of error for all estimates can be found in the Appendix Table 4 <www.census.gov/hhes/socdemo/language/data/acs/Table4.xls>. For more information on the ACS, see <www.census.gov/acs/www/>.

Source: U.S. Census Bureau, 2011 American Community Survey.

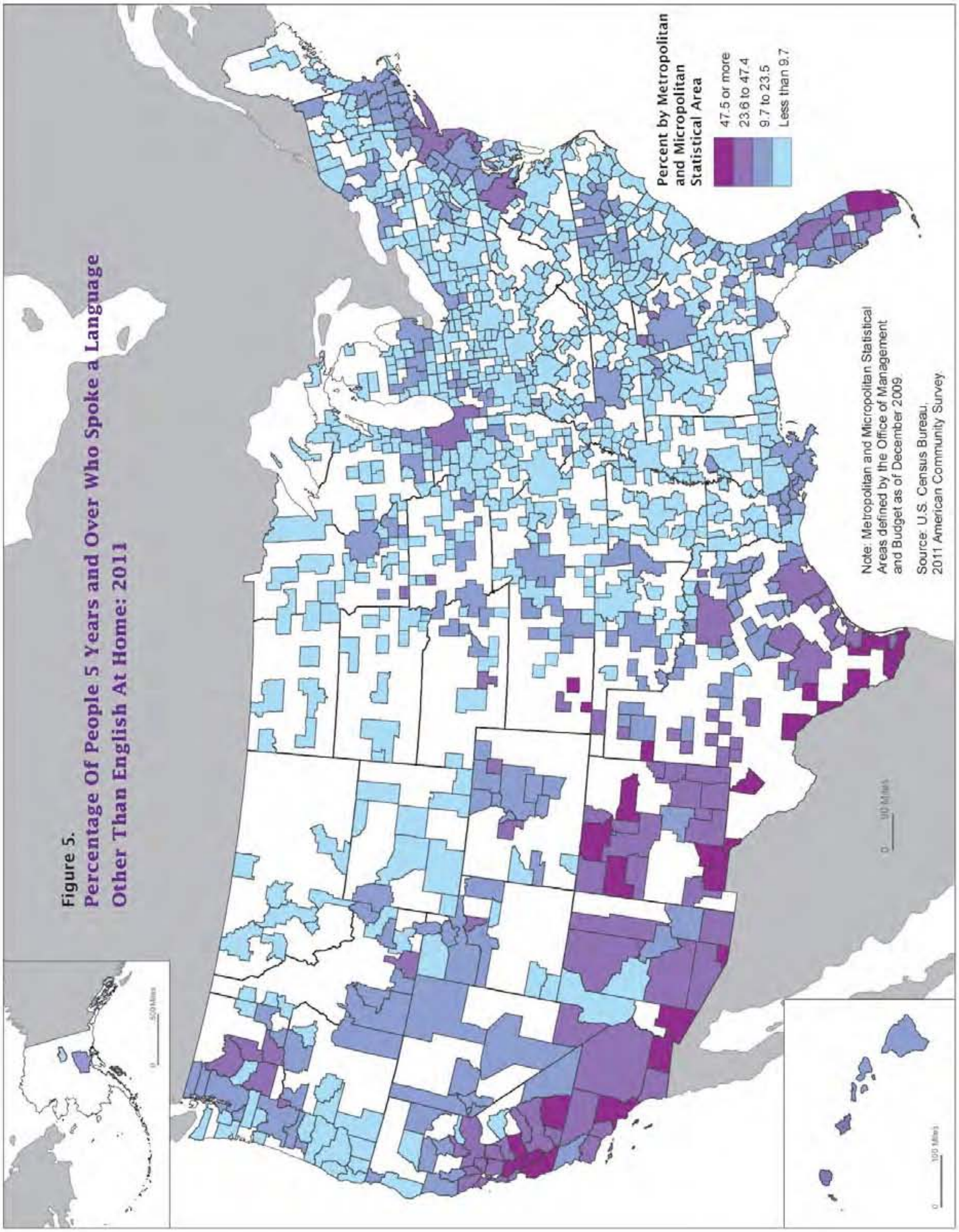


Figure 5.
Percentage Of People 5 Years and Over Who Spoke a Language Other Than English At Home: 2011

Table 5.

Distribution of Speakers of Non-English Languages for Selected Metropolitan Areas: 2011—Con.

(Metro areas where 25 percent or more of the population 5 years and over spoke a language other than English. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see *www.census.gov/acs/www/*)

Metropolitan areas	Population 5 years and over (Number)	Spoke a language other than English at home		Language spoken of those who speak a language other than English at home							
				Spanish		Other Indo-European languages		Asian and Pacific Island languages		Other languages	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Laredo, TX	230,506	212,319	92.1	209,847	98.8	581	0.3	1,832	0.9	59	0.0
McAllen-Edinburg-Mission, TX	720,446	614,621	85.3	605,325	98.5	2,668	0.4	5,885	1.0	743	0.1
El Centro, CA	163,107	118,711	72.8	116,345	98.0	366	0.3	1,705	1.4	295	0.2
El Paso, TX	754,849	547,397	72.5	532,372	97.3	7,459	1.4	6,654	1.2	912	0.2
Brownsville-Harlingen, TX	377,563	263,074	69.7	260,237	98.9	1,049	0.4	1,578	0.6	210	0.1
Los Angeles-Long Beach-Santa Ana, CA	12,103,230	6,571,923	54.3	4,413,269	67.2	640,467	9.7	1,398,593	21.3	119,594	1.8
Salinas, CA	388,612	208,721	53.7	183,699	88.0	5,929	2.8	16,365	7.8	2,728	1.3
Las Cruces, NM	197,651	104,655	52.9	100,672	96.2	2,470	2.4	1,068	1.0	445	0.4
Yuma, AZ	185,598	96,918	52.2	93,220	96.2	1,997	2.1	994	1.0	707	0.7
Miami-Fort Lauderdale-Miami Beach, FL	5,342,714	2,740,101	51.3	2,139,173	78.1	486,727	17.8	70,605	2.6	43,596	1.6
Visalia-Porterville, CA	407,905	206,897	50.7	189,574	91.6	4,774	2.3	11,603	5.6	946	0.5
San Jose-Sunnyvale-Santa Clara, CA	1,737,443	877,451	50.5	334,549	38.1	142,287	16.2	380,937	43.4	19,678	2.2
Merced, CA	237,573	119,028	50.1	97,433	81.9	12,157	10.2	8,660	7.3	778	0.7
Fresno, CA	863,371	382,344	44.3	291,503	76.2	26,979	7.1	59,346	15.5	4,516	1.2
Odessa, TX	127,828	55,765	43.6	53,895	96.6	984	1.8	661	1.2	225	0.4
Madera, CA	141,380	60,691	42.9	55,539	91.5	2,278	3.8	2,557	4.2	317	0.5
Bakersfield, CA	778,854	327,031	42.0	289,041	88.4	15,927	4.9	17,834	5.5	4,229	1.3
Modesto, CA	479,014	200,726	41.9	151,626	75.5	21,636	10.8	10,649	5.3	16,815	8.4
Hanford-Corcoran, CA	141,291	58,722	41.6	51,884	88.4	2,568	4.4	3,581	6.1	689	1.2
Santa Barbara-Santa Maria, CA	399,458	162,367	40.6	136,637	84.2	11,151	6.9	12,538	7.7	2,041	1.3
Riverside-San Bernardino-Ontario, CA	3,983,998	1,615,123	40.5	1,322,026	81.9	81,921	5.1	180,171	11.2	31,005	1.9
San Francisco-Oakland-Fremont, CA	4,130,311	1,670,902	40.5	678,359	40.6	269,017	16.1	685,063	41.0	38,463	2.3
Stockton, CA	641,685	253,878	39.6	168,367	66.3	30,977	12.2	50,263	19.8	4,271	1.7
Yakima, WA	225,246	88,659	39.4	84,221	95.0	1,538	1.7	2,067	2.3	833	0.9
New York-Northern New Jersey-Long Island, NY-NJ-PA	17,838,980	6,981,683	39.1	3,518,126	50.4	2,025,713	29.0	1,095,595	15.7	342,249	4.9
San Antonio, TX	2,035,868	777,946	38.2	714,314	91.8	31,512	4.1	23,358	3.0	8,762	1.1
Napa, CA	130,131	49,664	38.2	39,493	79.5	2,820	5.7	6,973	14.0	378	0.8
San Diego-Carlsbad-San Marcos, CA	2,933,575	1,106,849	37.7	729,347	65.9	89,904	8.1	235,773	21.3	51,825	4.7
Houston-Sugar Land-Baytown, TX	5,604,644	2,091,768	37.3	1,617,957	77.3	174,242	8.3	242,529	11.6	57,040	2.7
Corpus Christi, TX	402,206	147,850	36.8	139,200	94.1	2,994	2.0	4,807	3.3	849	0.6
Santa Fe, NM	137,904	50,245	36.4	45,075	89.7	2,367	4.7	1,020	2.0	1,783	3.5
Oxnard-Thousand Oaks-Ventura, CA	776,660	282,683	36.4	222,652	78.8	21,593	7.6	32,297	11.4	6,141	2.2
Farmington, NM	117,861	42,444	36.0	14,150	33.3	741	1.7	372	0.9	27,181	64.0
Las Vegas-Paradise, NV	1,831,695	614,625	33.6	423,841	69.0	52,000	8.5	120,260	19.6	18,524	3.0
Santa Cruz-Watsonville, CA	249,132	80,238	32.2	66,016	82.3	6,350	7.9	7,111	8.9	761	0.9
Naples-Marco Island, FL	311,342	99,321	31.9	73,660	74.2	19,639	19.8	5,105	5.1	917	0.9
Albuquerque, NM	838,920	263,567	31.4	214,162	81.3	14,614	5.5	8,972	3.4	25,819	9.8
Yuba City, CA	154,104	48,278	31.3	31,649	65.6	10,586	21.9	5,830	12.1	213	0.4
Midland, TX	129,109	39,627	30.7	36,494	92.1	1,107	2.8	1,647	4.2	379	1.0
Dallas-Fort Worth-Arlington, TX	6,022,507	1,809,206	30.0	1,381,478	76.4	156,259	8.6	207,267	11.5	64,202	3.5
Orlando-Kissimmee, FL	2,039,583	595,470	29.2	433,912	72.9	106,337	17.9	45,711	7.7	9,510	1.6
Chicago-Naperville-Joliet, IL-IN-WI	8,876,347	2,580,089	29.1	1,547,235	60.0	627,153	24.3	288,927	11.2	116,774	4.5
Tucson, AZ	927,411	264,996	28.6	218,043	82.3	18,044	6.8	16,123	6.1	12,786	4.8

See note at end of table.

Table 5.

Distribution of Speakers of Non-English Languages for Selected Metropolitan Areas: 2011—Con.

(Metro areas where 25 percent or more of the population 5 years and over spoke a language other than English. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see *www.census.gov/acs/www/*)

Metropolitan areas	Population 5 years and over (Number)	Spoke a language other than English at home		Language spoken of those who speak a language other than English at home: Spanish		Other Indo-European languages		Asian and Pacific Island languages		Other languages	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Bridgeport-Stamford-Norwalk, CT	870,100	247,017	28.4	127,732	51.7	88,781	35.9	22,751	9.2	7,753	3.1
Vallejo-Fairfield, CA	390,169	110,111	28.2	63,385	57.6	9,557	8.7	35,825	32.5	1,344	1.2
Austin-Round Rock, TX	1,654,442	464,933	28.1	366,576	78.8	46,107	9.9	45,774	9.8	6,476	1.4
Sacramento—Arden-Arcade—Roseville, CA	2,033,096	568,262	28.0	262,979	46.3	128,150	22.6	167,443	29.5	9,690	1.7
Trenton-Ewing, NJ	345,584	96,326	27.9	44,888	46.6	29,193	30.3	19,118	19.8	3,127	3.2
Atlantic City, NJ	257,871	70,762	27.4	42,378	59.9	14,272	20.2	11,783	16.7	2,329	3.3
Kennewick-Richland-Pasco, WA	242,237	66,106	27.3	55,038	83.3	6,040	9.1	4,581	6.9	447	0.7
Honolulu, HI	901,726	243,991	27.1	17,736	7.3	11,328	4.6	214,043	87.7	884	0.4
Washington-Arlington-Alexandria, DC-VA-MD-WV	5,319,973	1,420,987	26.7	638,181	44.9	333,850	23.5	300,327	21.1	148,629	10.5
Gainesville, GA	169,018	45,018	26.6	40,731	90.5	1,841	4.1	2,374	5.3	72	0.2
Victoria, TX	106,954	28,441	26.6	25,185	88.6	959	3.4	1,802	6.3	495	1.7
Phoenix-Mesa-Scottsdale, AZ	3,955,933	1,037,554	26.2	806,286	77.7	90,785	8.7	93,206	9.0	47,277	4.6
Dalton, GA	132,462	34,332	25.9	32,380	94.3	560	1.6	137	0.4	1,255	3.7
Wenatchee, WA	104,787	26,968	25.7	24,815	92.0	664	2.5	727	2.7	762	2.8

Note: Margins of error for all estimates can be found in the Appendix Table 5 <www.census.gov/hhes/socdemo/language/data/acs/Table5.xls>.
Source: U.S. Census Bureau, 2011 American Community Survey. For more information on the ACS, see <www.census.gov/acs/www/>.

and San Jose-Sunnyvale-Santa Clara, California, where Spanish speakers were also outnumbered by those who spoke Asian and Pacific Island languages. The other metropolitan area was Farmington, New Mexico. In this area, the overwhelming majority spoke the Native American language of Navajo.

New York and Los Angeles stand out for the large number of speakers of languages other than English that reside there—more than 6 million in each metropolitan area. In the New York metropolitan area, about 50 percent of those who spoke a language other than English spoke Spanish. Another 29 percent of these people spoke Other Indo-European languages. In the Los Angeles metropolitan area, over two-thirds of those who spoke a language other than English spoke Spanish.

SUMMARY

This report provides illustrative evidence of the continuing and growing role of non-English languages as part of the national fabric. Fueled by both long-term historic immigration patterns and more recent ones, the language diversity of the country has increased over the past few decades. As the nation continues to be a destination for people from other lands, this pattern of language diversity will also likely continue. Given the patterns of location and relocation over time, local areas may see specific or diverse changes in the languages spoken in any given locality.

SOURCE OF THE DATA

Estimates in this report are from the 2011 American Community Survey (ACS). The population represented (the population universe) in the 2011 ACS includes both the household and the group quarters populations (that is, the resident population). The group quarters population consists of the institutionalized population (such as people in correctional institutions or nursing homes) and the noninstitutionalized population (most of whom are in college dormitories).

ACCURACY OF THE ESTIMATES

Statistics from sample surveys are subject to sampling error and nonsampling error. All comparisons presented in this report have taken sampling error into account and are significant at the 90 percent confidence level.[18] This means the 90 percent confidence interval for the difference between estimates being compared does not include zero. Nonsampling error in surveys may be attributed to a variety of sources, such as how the survey was designed, how respondents interpret questions, how able and willing respondents are to provide correct answers, and how accurately answers are coded and classified. To minimize these errors, the Census Bureau employs quality control procedures in sample selection, the wording of questions, interviewing, coding, data processing, and data analysis.

The final ACS population estimates are adjusted in the weighting procedure for coverage error by controlling specific survey estimates to independent population controls by sex, age, race, and Hispanic origin. This weighting partially corrects for bias due to over- or undercoverage, but biases may still be present, for example, when people who were missed differ from those interviewed in ways other than sex, age, race, and Hispanic origin. How this weighting procedure affects other variables in the survey is not precisely known. All of these considerations affect comparisons across different surveys or data sources. For information on sampling and estimation methods, confidentiality protection, and sampling and nonsampling errors, please see the "2011 ACS Accuracy of the Data" document located at <www.census.gov/acs/www/Downloads/data_documentation/Accuracy/ACS_Accuracy_of_Data_2011.pdf>.

MORE INFORMATION

Detailed tabulations, related information, and historic data are available on the Internet at the Language Use page on the Census Bureau's Web site at <www.census.gov/hhes/socdemo/language/index.html>. For additional questions or comments, contact the Education and Social Stratification Branch at 301-763-2464 or e-mail Camille L. Ryan at <Camille.L.Ryan@census.gov>.

[18] The tables reporting the margins of error for all the tables in this report can be accessed at <www.census.gov/hhes/socdemo/language/data/acs/2011/appendix.html>.

APPENDIX A.
LANGUAGE QUESTIONS USED IN DECENNIAL CENSUSES

2000: (Collected for all ages; retained for persons 5 years old and over)
Does this person speak a language other than English at home?
What is this language?
How well does this person speak English (very well, well, not well, not at all)?

1990: (Persons 5 years old and over)
Does this person speak a language other than English at home?
What is this language?
How well does this person speak English (very well, well, not well, not at all)?

1980: (Persons 3 years old and over; tabulated for 5 years old and over)
Does this person speak a language other than English at home?
What is this language?
How well does this person speak English (very well, well, not well, not at all)?

1970: (No age for question, tabulations limited)
What language, other than English, was spoken in this person's home when he was a child?
(Spanish, French, German, Other (specify)______, None, English only)

1960: (Foreign-born)
What language was spoken in his home before he came to the United States?

1950: (Not asked)

1940: (For persons of all ages; asked under the category of "Mother Tongue [or Native Language] of Foreign Born")
Language spoken at home in earliest childhood.

1930: (Foreign born; asked under the category of "Mother Tongue [or Native Language] of Foreign Born")
Language spoken in home before coming to the United States.

1920: (Foreign born)
Place of birth and mother tongue of person and each parent.
Whether able to speak English.

1910:
Mother tongue was collected for all foreign-born persons, to be written in with place of birth; also collected for foreign-born parents. Specific instructions on correct languages to write in and a list of appropriate European languages were provided to the enumerator. Similar instructions may have carried over to 1920.
Whether able to speak English; or, if not, give language spoken.

1900: (All persons 10 years old and over)
"Can speak English" was asked after the two questions "Can read" and "Can write."

1890: (All persons 10 years old and over)
"Able to speak English. If not, the language or dialect spoken" was asked after the questions "Able to Read" and "Able to Write."

1790–1880:
No evidence of language questions or English-ability questions.

Note: The universe used for data collection may not be the same as in tabulations. In some cases, data were tabulated for foreign-born only or White foreign-born only. Consult publications.

www.mla.org/map_main
www.ethnologue.com/

Language Projections: 2010 to 2020

Presented at the Federal Forecasters Conference, Washington, DC, April 21, 2011
Hyon B. Shin, Social, Economic, and Housing Statistics Division, U.S. Census Bureau
Jennifer M. Ortman, Population Division, U.S. Census Bureau

ABSTRACT

Language diversity in the United States has changed rapidly over the past three decades. The use of a language other than English at home increased by 148 percent between 1980 and 2009 and this increase was not evenly distributed among languages. Polish, German, and Italian actually had fewer speakers in 2009 compared to 1980. Other languages, such as Spanish, Vietnamese, and Russian, had considerable increases in their use. Using data on the language spoken at home from the American Community Survey and the U.S. Census Bureau's 2008 and 2009 National Population Projections, this paper presents projections of what the population speaking a language other than English might look like in 2020, with a focus on the methodology used to produce these projections.

INTRODUCTION

The changing landscape of the population living in the United States over the past several decades can be seen in many areas throughout the country. Whether it is a road sign written in Chinese or a Spanish-language television station, one can see that the language diversity in the United States is rapidly changing. In 2009, 57.1 million people (20 percent of the population 5 years and older) spoke a language other than English (LOTE) at home. In 1980, there were 23.1 million (11 percent of the population 5 years and older) LOTE speakers (Table 1).

The overall 148 percent increase from 1980 to 2009 in the number of LOTE speakers was not evenly distributed among languages. Polish, German, and Italian actually had fewer speakers in 2009 compared to 1980. Other languages, such as Spanish, Vietnamese, and Russian, however, had considerable increases in their use. This paper presents national-level projections of what the LOTE population might look like in 2020, with a focus on the methodology that is used to produce these projections.

BACKGROUND

The United States has always been a country noted for its linguistic diversity. Information on language use and proficiency collected from decennial censuses shows that there have been striking changes in the linguistic landscape. These changes have been driven in large part by a shift in the origins of immigration to the United States. During the late 19th and early 20th centuries, the majority of U.S. immigrants spoke either English or a European language such as German, Polish, or Italian (Stevens, 1999). Beginning in the middle of the 20th century, patterns of immigration shifted to countries in Latin America, the Caribbean, and Asia (Bean and Stevens, 2005). As a result, the use of Spanish and Asian or Pacific Island languages began to grow. By 2000, over 70 percent of the population speaking a LOTE spoke Spanish, Chinese, Japanese, Korean, Vietnamese, or Tagalog (Shin and Bruno, 2003).

Since 1980, the percentage of the population who reported speaking a language other than English at home rose from 23.1 million speakers to 57.1 million speakers in 2009 (Table 2). The largest numeric increase in the population speaking a language other than English at home was for Spanish speakers (increased by 24.4 million speakers) whereas the largest percent increase was for Vietnamese speakers (533 percent increase).

Language use is an indicator of cultural assimilation (Rumbaut, 1997), which is measured by shifts to English as the language usually spoken by U.S. immigrants and their descendants (Stevens, 1994). For most U.S. immigrant groups, the shift to English monolingualism takes place within a few generations (Hurtado and Vega, 2004).

There are many incentives to learn and use English in the American society. Economists have argued that the impetus for language acquisition was for human capital (Chiswick and Miller, 2001) or that potential earnings could be affected by not having a strong command of the English language and, therefore, motivate immigrants to learn English and increase potential earnings (Cohen-Goldner and Eckstein, 2008). Others have argued that the economic view overlooks the social and cultural aspects of learning English in the United

States (Espenshade and Fu, 1997; Mouw and Xie, 1999; Stevens, 1992) such as communication within and outside of one's language group.

The U.S. Census Bureau has collected information about the language characteristics of U.S. residents in every decennial census from 1890 through 2000, with the exception of the 1950 census. Information was collected on English proficiency, mother tongue, and language spoken. The development of a consistent time series of data for the period between 1890 and 1980 is hindered by the considerable variation across censuses in terms of question wording, coding of responses, and the subsets of the population that were asked these questions (Stevens, 1999).

Beginning in 1980, a series of three questions were introduced to gather data on language use and English speaking ability. These questions were developed to satisfy the legislative mandate of the minority language assistance provision of Section 203 in the Voting Rights Act of 1965 and, along with a few other variables, are used to determine which jurisdictions must provide voting rights materials in minority languages.[1] The three questions were asked of the population 5 years and over. The first question asked "Does this person speak a language other than English at home?" If the respondent answered "Yes" to this question, they were then asked "What is this language?" with a write-in field for the answer and then asked "How well does this person speak English?" with the following four answer categories: "Very well," "Well," "Not well," and "Not at all."

These same three questions were asked in the 1980, 1990, and 2000 censuses, providing a consistent time series with which to study changes in language use and English–speaking ability among U.S. residents over time. Since 2001, the language questions, along with all of the other social, economic, and housing questions that were asked in the Census 2000 long-form census questionnaire, are now asked yearly in the American Community Survey. This change allows for these characteristics to be gathered yearly instead of every 10 years. Having the same three questions asked for the last 3 decades gives a good metric for comparing the relative growth or decline of individual languages.

The language data collected are obtained from the second language question that asks "What is this language?" The languages written in this box are put through a coding procedure that assigns a language code for individual languages or groups of languages. There are 382 language codes and from this list, a standard classification of 39 detailed language groups is available. These 39 languages are further collapsed into four major language groups; Spanish, Other Indo-European languages, Asian and Pacific Island languages, and all other languages. Table 1 shows data from the 2009 American Community Survey for the four- and 39-language groups by English-speaking ability.

DATA AND METHODS

This paper presents a series of national-level language projections developed using data on the language spoken at home from the American Community Survey and the Census Bureau's 2008 and 2009 National Population Projections. The paper discusses the language-projection results using the 2008 National Population Projections numbers only. The results using the 2009 projections are available upon request.

American Community Survey Data

The American Community Survey (ACS) collects data on social, housing, and economic characteristics for demographic groups in the United States. This paper uses the 2006, 2007, 2008, and 2009 ACS files.

Data on language use and English-speaking ability historically collected in the decennial censuses, are now captured every year in the ACS. The ACS was conducted on a test basis from 2000 through 2004 and expanded to full sample size for housing units in 2005 and for group quarters in 2006. To have a complete sample, comparable to Census 2000, we chose to use the ACS data files from 2006 through 2009.[2]

National Population Projections Data

The U.S. Census Bureau's 2008 and 2009 National Population Projections were created using the cohort-component method and provide projections of the resident population of the United States and demographic components of change (births, deaths, and

[1] For more information on the Voting Rights Act and how the language questions are used to satisfy the legislative mandate, see the Federal Register at <http://www.census.gov/rdo/pdf/FRN_VotingRightsDeterminations.pdf>.

[2] For more information on the ACS, the American Community Survey website provides handbooks for data users. These handbooks are available online at <http://www.census.gov/acs/www/guidance_for_data_users/handbooks/>.

net international migration).[3] These projections are based on Census 2000 data. These data are provided by age, sex, race and Hispanic origin for each year from July 1, 2000 to July 1, 2050. The projection series released in 2009 provided four supplemental series of projections with results for different international migration assumptions. The supplemental series included: (1) high migration, (2) low migration, (3) constant migration, and (4) zero migration. Assumptions about future rates of mortality and fertility are the same in all five series. This paper uses data for the years 2010 through 2020 from the 2008 series (U.S. Census Bureau, 2008) and the high, low, and constant series from the 2009 release (U.S. Census Bureau, 2009).

Language Projection Methodology

We produce projections of both the total number of people speaking a language other than English at home (LOTE speakers) and the number of speakers for individual languages with at least 500,000 speakers in 2009. The 13 languages that meet this condition are: Spanish, French, Italian, Portuguese, German, Russian, Polish, Hindi, Chinese, Korean, Vietnamese, Tagalog, and Arabic. These are the most commonly spoken non-English languages and for some, such as Vietnamese and Russian, there has been tremendous growth in the number of speakers in the last few decades. The projections are produced by projecting future LOTE use based on trends in the ACS data and then applying the projected distribution of LOTE speakers to the projected population from the Census Bureau's 2008 and 2009 National Population Projections.

The distributions of LOTE speakers are projected by demographic characteristics. For projections of the overall population speaking a LOTE and the population speaking Spanish, we project by age (single years 5-49 and 50 years and over) and Hispanic origin, resulting in a total of 92 groups for which we project the percent speaking a LOTE and Spanish. Projections of the individual languages other than Spanish are developed by age, resulting in a total of 46 groups for which we project the percent speaking other individual languages.

We have developed three series of language projections, based on assumptions of constant, linear, and logistic change. The first assumption we make is the most basic and simplistic. We held LOTE use constant at currently observed levels. To do this, we held the percentage of LOTE speakers constant for each age and Hispanic origin group we project for at the level reported in the 2009 ACS. This is represented in equation 1, where P represents the percent speaking a LOTE in a given year.

$$P_{2009} = P_{2010} = P_{2011} = P_{2012} = \ldots = P_{2020} \quad [1]$$

The constant model assumes that future LOTE use will remain constant at recently estimated levels, and consequently there would be no change in the distribution of LOTE speakers within age and Hispanic origin groups. In this model, changes in the number of speakers will be driven by changes in the population projections. The percentage of LOTE speakers remains the same through 2020, but we apply these percentages to a population that is changing over time. If the size of a group increases over time, so will the number of speakers.

The other two models we use are a linear model and a logistic model, which are based on the assumption that language use can change over time and are based on trends in LOTE use observed in the four years of ACS data (2006-2009). The linear model assumes that language use in the future will change by the same amount as in the past and is represented by equation 2, where P_t represents the percent speaking a LOTE at time t, a is the estimated intercept, b is the estimated slope, and t is the year of data being projected.

$$P_t = a + b(t) \quad [2]$$

The third series, based on an assumption of logistic growth, is also based on trends in LOTE use from the 2006 through 2009 ACS. In contrast to the assumption of linear growth, the logistic model assumes that growth is constrained by an upper and lower bound. The logistic model is represented by equation 3, where P_t represents the percent speaking a LOTE at time t; a, b, and c are estimated parameters, and t is the year of data being projected.

$$P = {}^{a}\!/\!_{[1 + (b)(e^{-ct})]} \quad [3]$$

The linear model has the potential to exceed the bounds of the percent distribution, rising above 100 percent or falling below zero, whereas the logistic model will constrain growth as it approaches the upper and lower asymptotes of the distribution. In contrast to the constant model, where changes in the number of speakers will be driven by the population projections, for the linear and logistic models, changes in the number of speakers will be driven by both changes in

[3] The 2008 and 2009 National Population Projections do not incorporate 2010 Census results. Projections using the 2010 Census as a base are planned for release in 2012.

the projected percentages of LOTE speakers within each group and by changes in the population projections.

Comparison of Language Projection Models

Figures 1 and 2 provide two examples of what each projection model looks like, based on ACS data for two age and Hispanic origin groups. These groups illustrate two trends we observed in the ACS data. One group shows an increase in the number of LOTE speakers whereas the other group shows a decrease in the number speaking a LOTE.

Figure 1 shows the observed and projected percent speaking a LOTE at home for 36-year old non-Hispanics. This group showed an increase in LOTE use from 2006 to 2009, represented by the blue line in the figure. The red, green, and purple lines show what the projected percent of LOTE speakers will be for each of our three models. The constant series, represented by the red line, sets the projected percent of LOTE speakers for this group to equal the value observed in 2009, which was 13.8 percent. When this projected percent of LOTE speakers is applied to the projected population for this group, we would expect to see an increase in LOTE speakers so long as the projected population for this group increases over time. The green and purple lines show what the projected percent of LOTE speakers would be based on trends in the ACS data. These lines are very close to each other, illustrating that the linear and logistic models produce very similar results. When the percent projected to speak a LOTE is applied to the projected population for this group, we would expect to see an increase in the number of speakers. This increase would be larger than what would result from the constant model.

Figure 2 shows the observed and projected percent speaking a LOTE at home for 19-year old non-Hispanics. This group showed a slight decrease in LOTE use from 2006 to 2009, represented by the blue line in the figure. The projected percent of LOTE speakers for each of our three models is represented by the red, green, and purple lines in the figure. The constant series, represented by the red line in the figure, sets the projected percent of LOTE speakers for this group to equal 9.1 percent, which was the value observed in 2009. When this projected percent of LOTE speakers is applied to the projected population for this group, we would expect to see an increase in the number of LOTE speakers as long as the projected population for this group increases over time. The green and purple lines show what the projected percent of LOTE speakers would be based on trends in the ACS data. As was the case in the first example, the linear and logistic models produce very similar results. When the percent projected to speak a LOTE is applied to the projected population for this group, we would expect to see a decrease in the number of LOTE speakers. The trend in this example is the trend that we found for a majority of the groups we projected for. As a result, the projected number of LOTE speakers in the constant model will increase over time as long as the population increases, while the linear and logistic models will show either small increases or in some cases a decrease in the number projected to speak a LOTE.

RESULTS

The results are presented in three sections. The first will address the overall use of a language other than English, followed by results for Spanish speakers, and finally the results for the other twelve individual languages we projected. The discussion presented in the paper is for the language projections based on the 2008 National Population Projections. Appendix Table 1 provides the results using the 2008 series. The results for the language projections using the 2009 National Population Projections are provided in appendix tables 2 through 4.

Language Other than English Use

The overall number speaking a LOTE is projected to increase in all three projection models (see Figure 3). We see the largest increase in the constant model, which is based on the simplistic assumption that the percent speaking a LOTE within the age and Hispanic origin groups we project would remain constant. When applying the constant proportions, we see a large amount of growth in the number of LOTE speakers. For the linear and logistic models, where a majority of groups actually showed decreases in the percent speaking a LOTE from 2006 to 2009, the projected increases in LOTE use are much smaller. While the population for these groups is projected to grow, the projected percent speaking a LOTE actually goes down. This results in a smaller increase in the overall number projected to speak a LOTE.

The distribution of the population by language spoken is presented in Figure 4. This figure shows the percent distribution of the population that is projected to speak a LOTE and those that are projected to speak only English in 2010, 2015, and 2020. In each of the three models, there is a small increase in the percent that is projected to speak a LOTE. For all three models, English is projected to remain the only language spoken by a majority of U.S. residents. The constant model does show a slightly larger increase in LOTE use compared to the linear and logistic models. This finding is expected given that the assumption of the constant

model is that the percent speaking a LOTE will remain constant at the levels observed in 2009, rather than to decrease over time as projected for several groups in the linear and logistic models.

Spanish Use

The number of Spanish speakers is projected to increase in all of the projection models (see Figure 5). As was the case for the overall number of LOTE speakers, the largest increase in the number of Spanish speakers occurs in the constant model, whereas for the linear and logistic models, which follow the trends in the ACS, the projected percent of the population speaking Spanish increases, but by a smaller amount. This is to be expected, since a majority of the age and Hispanic origin groups we projected showed a decrease in the percent speaking Spanish. While the projected population increases over time, the percentage speaking Spanish decreased for many groups. This resulted in smaller increases in the overall number projected to speak Spanish in the linear and logistic models, compared to results for the constant assumption.

Figure 6 presents the percent of the total population five years and older that is projected to speak Spanish in 2010, 2015, and 2020. The percent speaking Spanish is projected to increase slightly over the next decade. In 2009, just over 12 percent of the population spoke Spanish at home. Under the assumptions that use of Spanish would remain constant over the next ten years, nearly 16 percent of the population 5 years or older is projected to speak Spanish. The linear and logistic models project a smaller increase, to just over 13 percent in 2020.

Spanish is projected to remain the language spoken by a majority of LOTE speakers (see Figure 7). In 2009, 63 percent of LOTE speakers reported speaking Spanish at home. This increased to almost 68 percent in the constant series, while the percent projected to speak Spanish held steady at just over 62 percent in the linear and logistic models in 2020.

Use of Other Languages

The projected change between 2010 and 2020 in the population speaking French, Italian, Portuguese, German, Russian, and Polish is presented in Figure 8. The constant model shows an increase in the number of speakers for all languages. This is expected because the driver of change for this model is the population projections. In the linear and logistic models, which are based on observed trends, the population speaking French, Italian, German, and Polish is projected to decline. The decline in the number of speakers for these languages is also consistent with longer term trends observed in the 1980, 1990, and 2000 Census data (Table 2). The population speaking Portuguese and Russian is projected to increase in the linear and logistic models, and the increases are higher than what was projected in the constant model, indicating that trends in the ACS data show growth in the use of these languages.

Figure 9 shows the projected change in the population that speaks Hindi, Chinese, Korean, Vietnamese, Tagalog, and Arabic. With the exception of Korean, use of the non-European languages is projected to increase over the next ten years in all three models. While the number of Korean speakers increased from 1980 to 2000, trends in ACS data show that the use of Korean has decline in recent years. As a result, Korean is projected to decline in the linear and logistic models.

Figures 10, 11, and 12 present the distribution of LOTE speakers by the language spoken for the constant, linear, and logistic models, respectively. Spanish, which was presented in Figure 7, and Chinese are the most commonly spoken languages in all three projections series, followed by French and Tagalog. Polish is the least spoken language among the thirteen languages we projected. In the constant model, all languages, except Spanish, are projected to decrease slightly as a percent of overall LOTE use (see Figures 7 and 10). In the linear model, Russian, Hindi, Tagalog, and Arabic increased slightly as a percent of overall LOTE use, while the other languages were either maintained at levels projected for 2010 or decreased slightly (see Figures 7 and 11). For the logistic model, Hindi, Chinese, Vietnamese, Tagalog, and Arabic all increased slightly as a percent of overall LOTE use, while the other languages were either maintained at current levels, or decreased slightly (see Figures 7 and 12).

CONCLUSIONS

This research suggests that the United States will continue to be a linguistically diverse nation in the coming years. The projections we produced show that the use of LOTE is projected to increase over the next ten years, though English is expected to continue to be the only language spoken by a substantial majority of all U.S. residents 5 years and older. The population speaking Spanish, as well as the populations speaking Portuguese, Russian, Hindi, Chinese, Vietnamese, Tagalog, and Arabic are projected to increase. Spanish is projected to remain the most commonly spoken non-English language. The linear and logistic models suggest that the populations speaking French, Italian, German, Polish, and Korean can be expected to decrease over the next decade.

The assumption of constant growth is likely overly simplistic, as it results in an increase in LOTE use for all languages, even those that are shown to decline in Census and in ACS data. The linear and logistic assumptions are perhaps more realistic, following observed trends, and provide results that are very similar. Since the logistic assumption is constrained within upper and lower bounds, and cannot produce projected percentages below zero or above 100, we may consider adopting the logistic model for use in future work.

As we move forward with this research, we plan to add 2010 ACS data to the time series that provides the basis for these projections, extending the time series to five years. We will also use the 2010-Census based population projections when they become available. Increasing the sample size could reduce variation resulting from sampling variability and improve the robustness of our results. In an effort to increase the sample size of the age and Hispanic origin groups we project, we will consider projecting by age groups instead of single years of age or using three-year ACS files instead of single year files to form the basis of the time series.

We will also consider projecting by birth cohorts instead of by age. A cohort approach will entail following cohorts of individuals as they grow older, instead of comparing language use of the population of the same age at different points in time. Studies have shown that language use can shift and change over the life course (Lutz, 2006; Ortman and Stevens, 2008; Portes and Rumbaut, 2001), which supports the adoption of a cohort approach to projecting language use into the future.

We did not project language use by nativity or generational status. Research shows that the use of non-English languages is strongly linked to immigration and is most frequent among first generation residents (Alba et al., 2002; Rumbaut et al., 2006; Stevens, 1992). The Census Bureau's population projections do not currently separate the population by foreign and native-born status. Should projections by nativity become available, we could further develop our methodology to project by nativity status, which could inform and improve the accuracy of the language projections.

REFERENCES

Alba, Richard, John Logan, Amy Lutz, and Brian Stults. 2002. "Only English by the Third Generation? Loss and Preservation of the Mother Tongue among the Grandchildren of Contemporary Immigrants." *Demography* 39(3): 467-484.

Bean, Frank D. and Gillian Stevens. 2005. *America's Newcomers and the Dynamics of Diversity*. Russell Sage Foundation: New York.

Chiswick, Barry R. and Paul W. Miller. 2001. "A Model of Destination-Language Acquisition: Application to Male Immigrants in Canada." *Demography* 38(3): 391-409.

Cohen-Goldner, Sarit and Zvi Eckstein. 2008. "Labor Mobility of Immigrants: Training, Experience, Language and Opportunities." *International Economic Review* 49(3): 837-872.

Espenshade, Thomas J. and Haishan Fu. 1997. "An Analysis of English-Language Proficiency Among U.S. Immigrants." *American Sociological Review* 62(2): 288-305.

Hurtado, Aída and Luis A. Vega. 2004. "Shift Happens: Spanish and English Transmission Between Parents and Their Children." *Journal of Social Issues* 60:137-155.

Lutz, Amy. 2006. "Spanish Maintenance among English-Speaking Latino Youth: The Role of Individual and Social Characteristics." *Social Forces* 84(3): 1417-1433.

Mouw, Ted and Yu Xie. 1999. "Bilingualism and the Academic Achievement of First- and Second-Generation Asian Americans: Accommodations With or Without Assimilation." *American Sociological Review* 64(2): 232-252.

Ortman, Jennifer M. and Gillian Stevens. 2008. "Shift Happens, But When?: Inter- and Intra-Generational Language Shift among Hispanic Americans." Presented at the Annual Meetings of the Population Association of America, April 17-19, New Orleans, LA.

Portes, Alejandro and Rubén G. Rumbaut. 2001. *Legacies: The Story of the Immigrant Second Generation*. Berkeley: University of California Press.

Rumbaut, Rubén G. 1997. "Paradoxes (and Orthodoxies) of Assimilation." *Sociological Perspectives* 40:483-511.

Rumbaut, Rubén G., Douglas S. Massey, and Frank D. Bean. 2006. "Linguistic Life Expectancies: Immigrant Language Retention in Southern California." *Population and Development Review* 32(3): 447-460.

Shin, Hyon B. and Rosalind Bruno. 2003. "Language Use and English-Speaking Ability: 2000." U.S. Census Bureau, Washington, D.C.

Stevens, Gillian. 1992. "The Social and Demographic Context of Language Use in the United States." *American Sociological Review* 57(2): 171-185.

_____. 1994. "Immigration, Emigration, Language Acquisition, and the English Language Proficiency of Immigrants in the United States." Pp. 163-185 in Immigration and Ethnicity: The Integration of America's Newest Arrivals, edited by B. Edmonston and J. S. Passel. Washington, D.C.: The Urban Institute Press.

_____. 1999. "A Century of U.S. Censuses and the Language Characteristics of Immigrants." *Demography* 36(3): 387-397.

U.S. Census Bureau. 2008. "2008 National Population Projections." Washington, DC: U.S. Census Bureau. (http://www.census.gov/population/www/projections/2008projections.html).

_____. 2009. "2009 National Population Projections (Supplemental)." Washington, DC: U.S. Census Bureau. (http://www.census.gov/population/www/projections/2009projections.html).

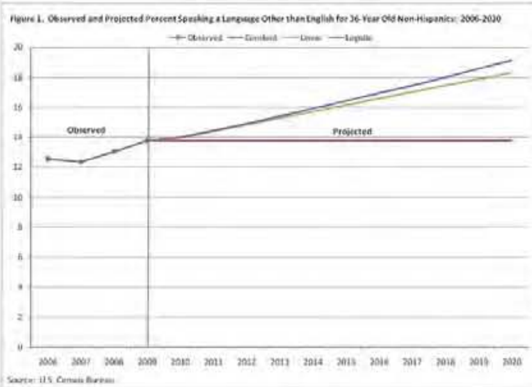


Figure 1. Observed and Projected Percent Speaking a Language Other than English for 16-Year Old Non-Hispanics: 2006-2020
Observed
Projected
Source: U.S. Census Bureau

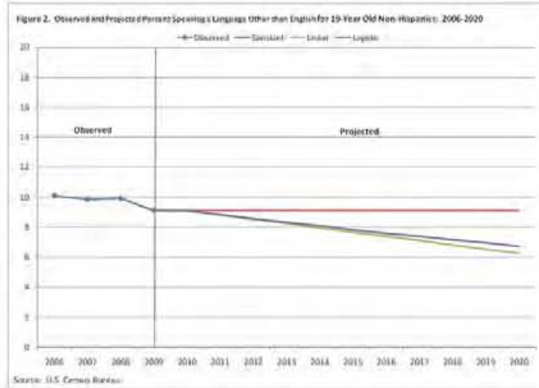


Figure 2. Observed and Projected Percent Speaking a Language Other than English for 19-Year Old Non-Hispanics: 2006-2020
Observed
Projected
Source: U.S. Census Bureau

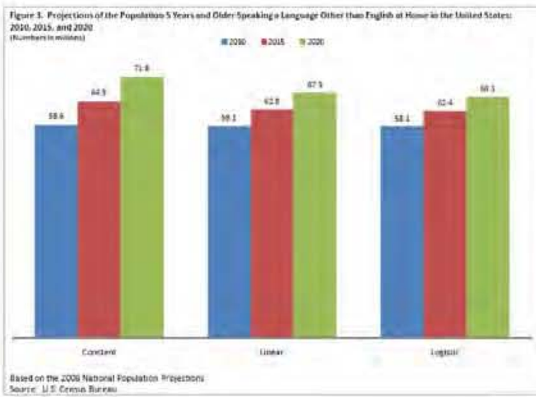


Figure 3. Projections of the Population 5 Years and Older Speaking a Language Other than English at Home in the United States: 2010, 2015, and 2020
(Numbers in millions)
Constant
Linear
Logistic
Based on the 2008 National Population Projections
Source: U.S. Census Bureau

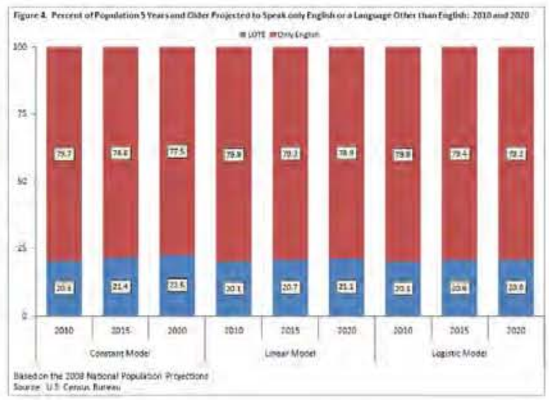


Figure 4. Percent of Population 5 Years and Older Projected to Speak only English or a Language Other than English: 2010 and 2020
LOTE
Only English
Constant Model
Linear Model
Logistic Model
Based on the 2008 National Population Projections
Source: U.S. Census Bureau

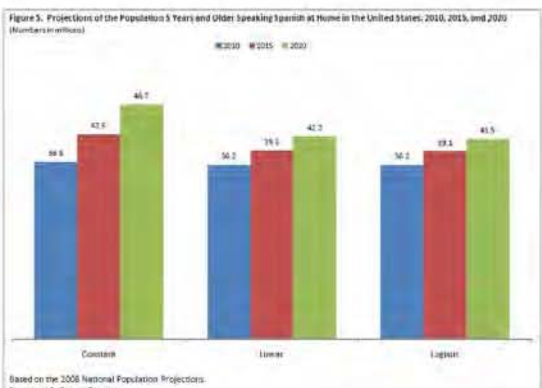


Figure 5. Projections of the Population 5 Years and Older Speaking Spanish at Home in the United States: 2010, 2015, and 2020
(Numbers in millions)
Constant
Linear
Logistic
Based on the 2008 National Population Projections
Source: U.S. Census Bureau

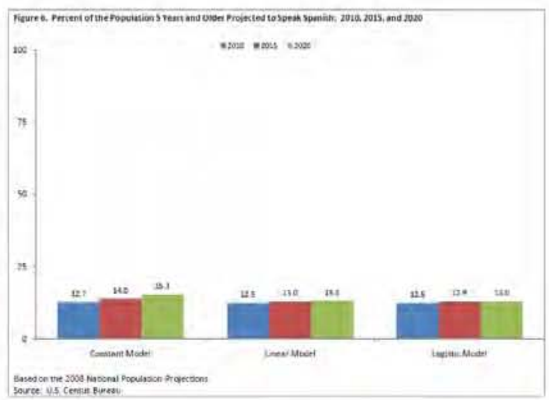
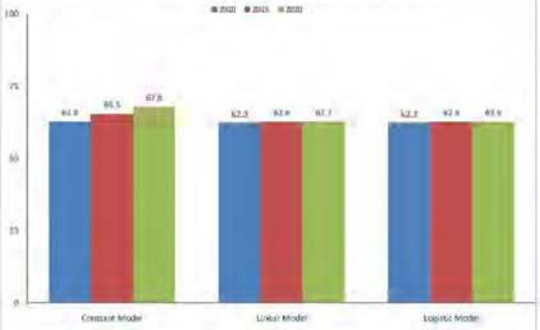


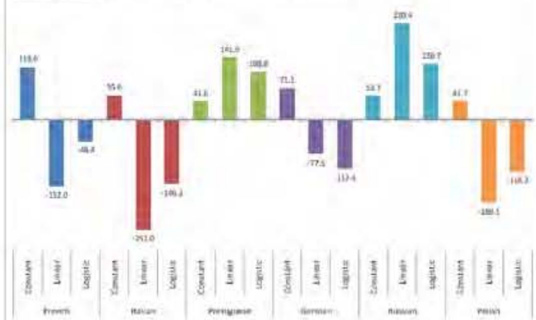
Figure 6. Percent of the Population 5 Years and Older Projected to Speak Spanish: 2010, 2015, and 2020
Constant Model
Linear Model
Logistic Model
Based on the 2008 National Population Projections
Source: U.S. Census Bureau

Figure 7. Percent of Language Other than English Speakers Projected to Speak Spanish: 2010, 2015, and 2020



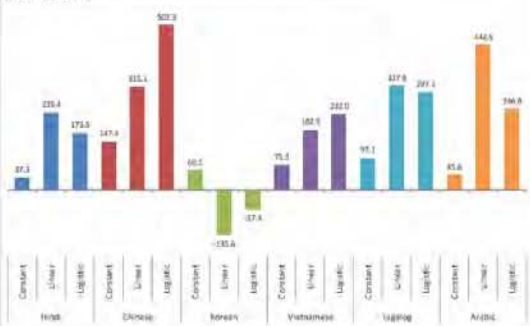
Based on the 2008 National Population Projections
Source: U.S. Census Bureau

Figure 8. Projected Change in the Number Speaking a European Language: 2010 to 2020
(Numbers in thousands)



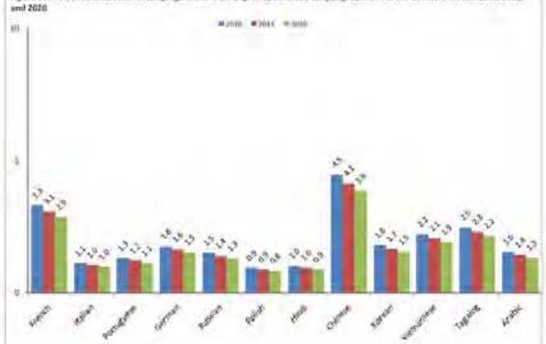
Based on the 2008 National Population Projections
Source: U.S. Census Bureau

Figure 9. Projected Change in the Number Speaking a Non-European Language: 2010 to 2020
(Numbers in thousands)



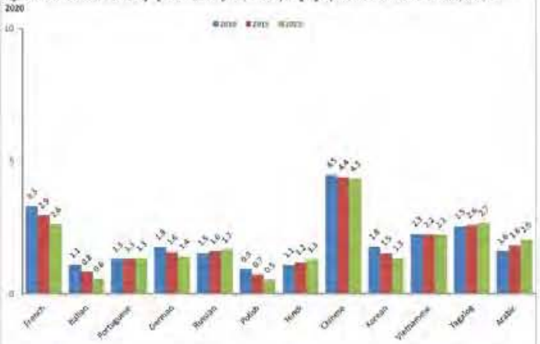
Based on the 2008 National Population Projections
Source: U.S. Census Bureau

Figure 10. Percent Distribution of Language-Other-than-English Speakers by Language Spoken for the Constant Model: 2010, 2015, and 2020



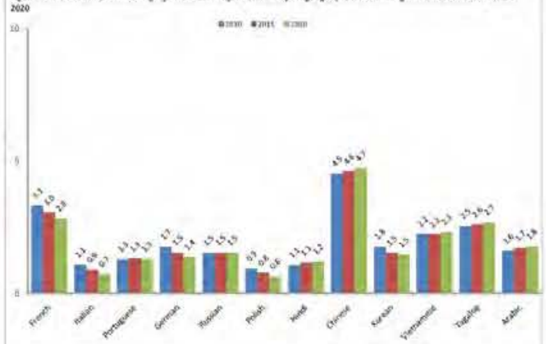
Based on the 2008 National Population Projections
Source: U.S. Census Bureau

Figure 11. Percent Distribution of Language-Other-than-English Speakers by Language Spoken for the Linear Model: 2010, 2015, and 2020



Based on the 2008 National Population Projections
Source: U.S. Census Bureau

Figure 12. Percent Distribution of Language-Other-than-English Speakers by Language Spoken for the Logistic Model: 2010, 2015, and 2020



Based on the 2008 National Population Projections
Source: U.S. Census Bureau

Table 1. Languages Spoken at Home: 1980, 1990, 2000, and 2009

Characteristic	1980	1990	2000	2006	2007	2008	2009	Percentage change 1980-2009
Population 5 Years and older	**210,247,455**	**230,445,777**	**262,375,152**	**279,012,712**	**280,950,438**	**283,156,079**	**285,797,349**	**35.9**
Spoke only English at home	187,187,415	198,600,798	215,423,557	224,154,288	225,505,953	227,295,534	228,699,523	22.2
Spoke a language other than English at home	23,060,040	31,844,979	46,951,595	54,858,424	55,444,485	55,860,545	57,097,826	147.6
Spoke a language other than English at home[2]	**23,060,040**	**31,844,979**	**46,951,595**	**54,858,424**	**55,444,485**	**55,860,545**	**57,097,826**	**147.6**
Spanish or Spanish Creole	11,116,194	17,345,064	28,101,052	34,044,945	34,547,077	34,615,394	35,468,501	219.1
French (includes Patois, Cajun, Creole)	1,550,751	1,930,404	2,097,206	1,997,618	1,984,824	1,973,531	1,964,556	26.7
Italian	1,618,344	1,308,648	1,008,370	828,524	798,801	782,173	753,992	-53.4
Portuguese or Portuguese Creole	351,875	430,610	564,630	683,405	687,126	661,120	731,282	107.8
German	1,586,593	1,547,987	1,383,442	1,135,999	1,104,354	1,121,465	1,109,216	-30.1
Russian	173,226	241,798	706,242	823,210	851,174	860,568	881,723	409.0
Polish	820,647	723,483	667,414	640,265	638,059	616,492	593,598	-27.7
Hindi[1]	(NA)	(NA)	317,057	504,607	532,911	562,587	560,983	(NA)
Chinese	630,806	1,319,462	2,022,143	2,492,871	2,464,572	2,473,968	2,600,150	312.2
Korean	266,280	626,478	894,063	1,060,631	1,062,337	1,048,400	1,039,021	290.2
Vietnamese	197,588	507,069	1,009,627	1,207,721	1,207,004	1,236,419	1,251,468	533.4
Tagalog	474,150	843,251	1,224,241	1,415,599	1,480,429	1,496,208	1,513,734	219.3
Arabic	217,529	355,150	614,582	732,519	767,319	780,995	845,396	288.6

NA Not available.

[1] Prior to 2000, Hindi and Urdu speakers w ere combined in the same language group (Indic languages). Individual estimates of Hindi speakers are not available for 1980 and 1990.
[2] The total does not match the sum of the 17 languages listed in this table because the total includes other languages that are not listed here.
The 13 languages listed in this tables are those language w ith 500,000 or more speakers in 2009.

Sources: U.S. Census Bureau, 1980 and 1990 Census, Census 2000, and 2006-2009 American Community Survey.

Table A-1. Detailed Languages Spoken at Home by English-Speaking Ability for the Population 5 Years and Older: 2009

	Number of speakers	Percentage of speakers of a non-English language	English-speaking ability			
			Very well	Well	Not well	Not at all
Population 5 years and older	**285,797,349**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**
Spoke only English at home	228,699,523	(X)	(X)	(X)	(X)	(X)
Spoke a language other than English at home	57,097,826	100.0	56.9	19.6	15.9	7.5
Spoke a language other than English at home	**57,097,826**	**100.0**	**56.9**	**19.6**	**15.9**	**7.5**
Spanish or Spanish Creole	**35,468,501**	**62.1**	**54.3**	**18.0**	**17.9**	**9.8**
Other Indo-European languages	**10,495,295**	**18.4**	**67.5**	**19.6**	**10.1**	**2.8**
French	1,305,503	2.3	79.9	13.9	5.7	0.5
French Creole	659,053	1.2	54.2	25.9	15.1	4.8
Italian	753,992	1.3	72.6	17.5	8.8	1.0
Portuguese	731,282	1.3	58.6	20.8	15.3	5.3
German	1,109,216	1.9	83.3	12.6	3.8	0.2
Yiddish	148,155	0.3	66.2	19.4	11.0	3.4
Other West Germanic languages	271,227	0.5	77.7	18.0	3.7	0.7
Scandinavian languages	126,337	0.2	89.0	9.2	1.8	
Greek	325,747	0.6	75.3	15.1	8.7	0.9
Russian	881,723	1.5	49.8	27.3	17.2	5.7
Polish	593,598	1.0	57.6	25.5	14.0	2.9
Serbo-Croatian	269,333	0.5	61.4	21.7	13.6	3.3
Other Slavic languages	298,094	0.5	61.5	21.7	13.2	3.6
Armenian	242,836	0.4	54.8	22.5	14.7	8.1
Persian	396,769	0.7	62.1	21.8	11.3	4.8
Gujarathi	341,404	0.6	64.2	20.2	11.8	3.9
Hindi	560,983	1.0	78.0	16.0	4.9	1.1
Urdu	355,964	0.6	70.3	18.7	8.7	2.2
Other Indic languages	668,596	1.2	60.6	23.5	11.1	4.7
All other Indo-European languages	455,483	0.8	64.1	23.4	9.3	3.2
Asian and Pacific Island languages	**8,698,825**	**15.2**	**51.8**	**25.8**	**17.1**	**5.3**
Chinese	2,600,150	4.6	45.1	26.0	19.5	9.4
Japanese	445,471	0.8	55.3	27.5	15.6	1.5
Korean	1,039,021	1.8	43.3	28.5	23.6	4.6
Mon-Khmer, Cambodian	202,033	0.4	48.4	23.6	21.9	6.1
Hmong	193,179	0.3	53.5	24.6	15.2	6.6
Thai	152,679	0.3	48.5	32.1	17.0	2.4
Laotian	146,297	0.3	50.2	24.5	20.3	5.0
Vietnamese	1,251,468	2.2	39.2	27.1	26.2	7.5
Other Asian languages	792,756	1.4	68.4	20.8	8.4	2.4
Tagalog	1,513,734	2.7	68.5	24.4	6.6	0.5
Other Pacific Island languages	371,653	0.7	60.8	25.7	12.3	1.2
Other languages	**2,435,205**	**4.3**	**69.0**	**20.1**	**8.5**	**2.3**
Navajo	169,009	0.3	77.3	13.6	6.8	2.3
Other Native American languages	196,372	0.3	84.5	11.3	3.7	0.5
Hungarian	90,612	0.2	67.4	24.1	8.0	0.5
Arabic	845,396	1.5	63.0	22.9	11.3	2.8
Hebrew	221,593	0.4	82.1	14.8	2.8	0.2
African languages	777,553	1.4	67.7	22.2	7.8	2.2
All other languages	125,054	0.2	61.6	17.2	13.9	7.3

X Not applicable.

Sources: U.S. Census Bureau, The 2009 American Community Survey.
For more information on ACS see http://www.census.gov/acs/www/

Table A-2. Projected Population Speaking a Language Other than English at Home: 2010, 2015, and 2020,
2008 National Population Projections

	2010	2015	2020	2010	2015	2020	2010	2015	2020
	(In thousands)			(Percent of population ages 5 and over)			(Percent of population speaking a language other than English)		
Population ages 5 and over	**286,998**	**299,378**	**311,886**	**100.0**	**100.0**	**100.0**	**(X)**	**(X)**	**(X)**
Constant Model									
Only English	230,573	238,538	246,736	80.3	79.7	79.1	(X)	(X)	(X)
Language other than English	58,560	64,926	71,805	20.4	21.7	23.0	100.0	100.0	100.0
Spanish	36,780	42,500	48,711	12.8	14.2	15.6	62.8	65.5	67.8
French	1,934	1,994	2,054	0.7	0.7	0.7	3.3	3.1	2.9
Italian	652	681	707	0.2	0.2	0.2	1.1	1.0	1.0
Portuguese	762	782	804	0.3	0.3	0.3	1.3	1.2	1.1
German	1,031	1,066	1,102	0.4	0.4	0.4	1.8	1.6	1.5
Russian	881	908	934	0.3	0.3	0.3	1.5	1.4	1.3
Polish	555	578	597	0.2	0.2	0.2	0.9	0.9	0.8
Hindi	601	621	638	0.2	0.2	0.2	1.0	1.0	0.9
Chinese	2,623	2,694	2,771	0.9	0.9	0.9	4.5	4.1	3.9
Korean	1,051	1,077	1,111	0.4	0.4	0.4	1.8	1.7	1.5
Vietnamese	1,300	1,335	1,376	0.5	0.4	0.4	2.2	2.1	1.9
Tagalog	1,448	1,495	1,545	0.5	0.5	0.5	2.5	2.3	2.2
Arabic	911	932	956	0.3	0.3	0.3	1.6	1.4	1.3
Linear Model									
Only English	231,001	240,692	251,202	80.5	80.4	80.5	(X)	(X)	(X)
Language other than English	58,132	62,772	67,339	20.3	21.0	21.6	100.0	100.0	100.0
Spanish	36,238	39,305	42,229	12.6	13.1	13.5	62.3	62.6	62.7
French	1,912	1,846	1,760	0.7	0.6	0.6	3.3	2.9	2.6
Italian	625	508	373	0.2	0.2	0.1	1.1	0.8	0.6
Portuguese	750	815	891	0.3	0.3	0.3	1.3	1.3	1.3
German	1,023	990	945	0.4	0.3	0.3	1.8	1.6	1.4
Russian	892	999	1,113	0.3	0.3	0.4	1.5	1.6	1.7
Polish	539	452	350	0.2	0.2	0.1	0.9	0.7	0.5
Hindi	627	742	862	0.2	0.2	0.3	1.1	1.2	1.3
Chinese	2,601	2,758	2,916	0.9	0.9	0.9	4.5	4.4	4.3
Korean	1,033	959	898	0.4	0.3	0.3	1.8	1.5	1.3
Vietnamese	1,309	1,394	1,492	0.5	0.5	0.5	2.3	2.2	2.2
Tagalog	1,474	1,624	1,792	0.5	0.5	0.6	2.5	2.6	2.7
Arabic	933	1,147	1,375	0.3	0.4	0.4	1.6	1.8	2.0
Logistic Model									
Only English	231,037	241,055	252,216	80.5	80.5	80.9	(X)	(X)	(X)
Language other than English	58,096	62,409	66,325	20.2	20.8	21.3	100.0	100.0	100.0
Spanish	36,221	39,072	41,525	12.6	13.1	13.3	62.3	62.6	62.6
French	1,921	1,896	1,872	0.7	0.6	0.6	3.3	3.0	2.8
Italian	629	548	482	0.2	0.2	0.2	1.1	0.9	0.7
Portuguese	748	805	857	0.3	0.3	0.3	1.3	1.3	1.3
German	1,017	958	904	0.4	0.3	0.3	1.8	1.5	1.4
Russian	887	961	1,013	0.3	0.3	0.3	1.5	1.5	1.5
Polish	544	480	426	0.2	0.2	0.1	0.9	0.8	0.6
Hindi	621	711	794	0.2	0.2	0.3	1.1	1.1	1.2
Chinese	2,629	2,873	3,131	0.9	1.0	1.0	4.5	4.6	4.7
Korean	1,024	949	966	0.4	0.3	0.3	1.8	1.5	1.5
Vietnamese	1,300	1,381	1,532	0.5	0.5	0.5	2.2	2.2	2.3
Tagalog	1,475	1,619	1,773	0.5	0.5	0.6	2.5	2.6	2.7
Arabic	923	1,065	1,170	0.3	0.4	0.4	1.6	1.7	1.8

X Not applicable.

Source: U.S. Census Bureau